

REPORT
OF THE
BOARD OF TRUSTEES OF PUBLIC SCHOOLS
OF THE
DISTRICT OF COLUMBIA
TO THE
COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

1896-97.

BOARD OF TRUSTEES OF PUBLIC SCHOOLS, DISTRICT OF COLUMBIA.

(1897-8.)

LOCAL COMMITTEES.

Division.	Name.	Term expires.	Address.
First	Job Barnard	Sept. 13, 1898	500 Fifth street nw.
Second	George H. Harries.....	.....do	Board of Trade, 1410 G street nw.
Third.....	James W. Whelpley.....	.....do	American Security and Trust Company, 1405 G street nw.
Fourth	David H. Hazen, M. D.....	.....do	407 Sixth street sw.
Fifth	Jesse H. Wilson .....	.....do	317 Four-and-a-half street nw.
Sixth	Mrs. Miranda B. Tulloch	Oct. 15, 1900	121 B street se.
Seventh and eighth.	Ellis Spear.....	Oct. 1, 1900	1003 F street nw.
	Rev. Sterling N. Brown.....	.....do	2464 Lincoln street nw.
Ninth.....	a Thomas H. Wright.....	Dec. 24, 1898	920 Twentieth street nw.
Tenth	Mrs. Mary C. Terrell.....	Sept. 13, 1898	1936 Fourth street nw.
Eleventh	Geo. H. Richardson, M. D. .	Oct. 1, 1900	309 Eleventh street se.

a Too late for assignment to committees.

OFFICERS OF THE BOARD.

President.—JAMES W. WHELPLEY, 1405 G street nw.

Secretary.—J. G. FALCK, Franklin School.

Superintendent of schools.—W. B. POWELL, A. M., Franklin School.

Superintendent of colored schools.—G. F. T. COOK, A. M., Sumner School.

MEETING OF THE BOARD OF TRUSTEES.

The stated meetings of the board of trustees are held on the second Tuesday of each month and on the last Tuesday of June.

STANDING COMMITTEES.

Rules.—Messrs. BARNARD, HARRIES, SPEAR, Mrs. TULLOCH.

Ways and means.—Messrs. WILSON, HARRIES, WHELPLEY, HAZEN, BROWN.

Buildings and repairs.—Messrs. HARRIES, SPEAR, RICHARDSON, Mrs. TERRELL.

Normal and high schools.—Messrs. WILSON, BARNARD, WHELPLEY, HARRIES, HAZEN, Mrs. TERRELL.

Teachers and janitors.—Messrs. BARNARD, WILSON, BROWN, SPEAR, Mrs. TERRELL.

Text-books and studies.—Messrs. HAZEN, WILSON, BARNARD, Mrs. TULLOCH.

Pensmanship, music, and discipline.—Messrs. BROWN, SPEAR, HAZEN, Mesdames TERRELL, TULLOCH.

Industrial instruction, drawing, and night schools.—Messrs. RICHARDSON, HARRIES, WHELPLEY, SPEAR, Mrs. TERRELL.

Library and report.—Messrs. SPEAR, BARNARD, BROWN, RICHARDSON, Mrs. TULLOCH.

Sanitation.—Mrs. TULLOCH, Messrs. HAZEN, RICHARDSON, BROWN.

SCHOOL DIRECTORY.

[1897-98.]

FIRST EIGHT DIVISIONS.

SUPERINTENDENT.

W. B. POWELL, Franklin School.

CLERK.

J. G. FALCK, Franklin School.

DIRECTORS OF SPECIAL WORK.

Director of primary work E. A. Denney (Miss) 808 12th street nw.
 Assistant director M. A. Blandy (Miss) 1008 I street nw.
 Assistant director E. C. Webster (Miss) 231 Massachusetts avenue ne.
 Director of music A. E. Scammell (Miss) Chevy Chase, Md.
 Director of drawing S. E. W. Fuller (Mrs.) 2611 Messmore avenue.
 Director of manual training J. A. Chamberlain 626 O street nw.
 Director of cooking E. S. Jacobs (Miss) 1543 9th street nw.
 Director of sewing M. W. Cate (Mrs.) 217 I street nw.
 Director of physical culture Rebecca Stonerod (Miss) 1101 K street nw.
 Librarian Mina Goetz (Miss) 911 6th street nw.

NORMAL SCHOOL.

Principal, Mrs. I. G. MYERS.

Office, Franklin School; residence, 1106 New York avenue northwest.

HIGH SCHOOLS.

Director, Dr. F. R. LANE.

Office, Central High School; residence, 1437 Q street nw.

Name of building.	Location of building.	Name of principal.
Central high.....	O street, between 6th and 7th streets nw.	Mr. P. M. Hughes, 117 7th street ne.
Eastern high.....	7th street, between Pennsylvania avenue and C street se.	Mr. H. M. Johnson, Anacostia, D. C.
Western high.....	Curtis School, O street, between 32d and 33d streets nw.	Miss E. C. Westcott, 506 T street nw.
Business high.....	1st street, between B and C streets nw.	Mr. Allan Davis, 908 11th street se.

FIRST DIVISION.

Supervising principal, Mr. C. S. CLARK.

Office, Dennison School; residence, 1504 R street nw.

Name of building.	Location of building.	Name of principal.
Adams	R street, between 17th street and New Hampshire avenue nw.	Mrs. C. B. Smith, 1522 9th street nw.
Berret	14th and Q streets nw.	Miss M. C. McGill, 1447 Q street nw.
Dennison	S street, between 13th and 14th streets nw.	Miss K. E. Rawlings, 3519 Eslin street nw.
Force	Massachusetts avenue, between 17th and 18th streets nw.	Mr. B. W. Murch, 1703 35th street nw.
Franklin	13th and K streets nw	Dr. E. G. Kimball, 1204 Massachusetts avenue nw.
Harrison	13th street, between V and W streets nw.	Miss A. L. Sargent, 945 Rhode Island avenue nw.
Phelps	Vermont avenue, between T and U streets nw.	Miss C. L. Garrison, 1822 15th street nw.
Thomson	12th street, between K and L streets nw.	(See Franklin School.)

SECOND DIVISION.

Supervising principal, Mr. N. P. GAGE.

Office, Seaton School; residence, 1126 Fifth street nw.

Abbot	6th street and New York avenue nw.	Miss Metella King, 721 Irving street nw.
Henry	P street, between 6th and 7th streets nw.	Miss E. K. Scott, 905 K street nw.
Morse	R and 5th streets nw	Miss E. M. Mott, 1122 Fifth street nw.
Polk	7th and P streets nw	Miss F. M. Roach, 1002 8th street nw.
Seaton	I street, between 2d and 3d streets nw.	Miss F. L. Hendley, 1216 L street nw.
Twining	3d street, between N and O streets, nw.	Miss Adelaide Davis, 425 New Jersey avenue se.
Webster	10th and H streets nw	Miss S. B. Kent, 939 H street nw.

THIRD DIVISION.

Supervising principal, Mr. A. T. STUART.

Office, Wallach School; residence, 16 Fourth street se.

Brent	3d and D streets se	Miss A. L. Grant, 507 East Capitol street.
Carbery	5th street, between D and E streets ne.	Miss M. E. Little, 720 A street ne.
Lenox	5th street and Virginia avenue se....	Miss V. L. Nourse, 415 C street se.
McCormick	3d street, between M and N streets se.	Miss R. G. Carraher, 512 6th street sw.
Maury	B street, between 12th and 13th streets ne.	Miss M. G. Kelly, 715 East Capitol street.
Peabody	5th and C streets ne	Miss M. A. Ankward, 128 D street se.
Towers	8th and C streets se	Miss N. M. Mack, 624 A street se.
Wallach	D street, between 7th and 8th streets se.	Miss Annie Beers, 117 4th street se.

FOURTH DIVISION.

Supervising principal, Mr. ISAAC FAIRBROTHER.

Office, Jefferson School; residence, 416 Tenth street sw.

Name of building.	Location of building.	Name of principal.
Amidon	6th and F streets sw	Mr. C. A. Johnson, 2011 S street nw.
Bradley	13½ street, between C and D streets sw.	Mr. C. F. Zimmele, 205 9th street sw.
Greenleaf	4½ street, between M and N streets sw.	Mr. C. N. Thompson, 943 Virginia avenue sw.
Jefferson	6th and D streets sw	Mr. H. T. A. Lemon, 629 G street sw.
Potomac	12th street, between Md. avenue and E street sw.	Miss M. E. Garrett, 718 B street sw.
Smallwood	I street, between 3d and 4½ streets sw.	Mr. S. E. Kramer, 1315 Q street nw.

FIFTH DIVISION.

Supervising principal, Mr. B. T. JANNEY.

Office, 3017 O street nw.; residence, 1671 Thirty-first street nw.

Addison	P street, between 32d and 33d streets nw.	Miss E. M. Chase, 300 R street ne.
Corcoran	28th street, between M street and Olive avenue nw.	Miss M. F. Gore, 812 21st street nw.
Fillmore	35th street, between U and V streets nw.	Miss T. C. Roeser, 427 4th street nw.
Grant	G street, between 21st and 22d streets nw.	Mr. S. M. Ryder, 34 Q street ne.
High Street	32d and S streets nw	Miss H. B. Bell, 3307 O street nw.
Jackson	U street, between 30th and 31st streets nw.	Mrs. L. A. Bradley, 936 I street nw.
Threlkeld	36th street and Prospect avenue nw.	Miss E. A. Hayden, 808 21st street nw.
Weightman	23d and M streets nw	Miss F. L. Reeves, 730 22d street nw.
Blunt	3017 O street nw	Miss M. H. Lufrio, 1937 Vermont avenue nw.
Birch	2819 P street nw	Miss Roberta Ossire, 2721 P street nw.

SIXTH DIVISION.

Supervising principal, Mr. W. B. PATTERSON.

Office, Gales School; residence, 526 Eighth street ne.

Arthur	Arthur place nw	Miss Miranda Steele, 419 3d street nw.
Blair	I street, between 6th and 7th streets ne.	Miss E. F. Goodwin, 1213 K street nw.
Blake	North Capitol street, between K and L streets nw.	Miss M. E. Bond, 818 New Jersey avenue nw.
Gales	1st and G streets nw	Miss K. T. Brown, 635 I street nw.
Hamilton	Bladensburg road, county	Miss E. P. Kirk, 819 R street nw.
Hayes	5th and K streets ne	Miss A. M. Clayton, 635 T street nw.
Langdon	Langdon	Miss A. M. Sisson, 440 K street nw.
Madison	10th and G streets ne	Miss H. P. Johnson, 12 Grant place nw.
Pierce	G and 14th streets ne	Miss M. J. Austin, 722 F street ne.
Taylor	7th street, near G street ne	Miss E. C. Dyer, 1702 9th street nw.

500 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

SEVENTH DIVISION.

(County.)

Supervising principal, Mr. J. R. KEENE.

Office, Monroe School; residence, Brightwood.

Name of building.	Location of building.	Name of principal.
<i>White.</i>		
Brightwood.....	Brightwood.....	Mr. W. E. Nalley, Brightwood.
Brookland.....	Brookland.....	Mr. C. K. Finckel, 615 Spruce street nw.
Chevy Chase.....	Connecticut avenue extended.....	
Conduit Road.....	Conduit road.....	Miss H. L. Luckel, 1755 L street nw.
Johnson.....	School street, Mount Pleasant.....	Miss C. G. Brewer, 1022 12th street nw.
Mount Pleasant.....		
Monroe.....	Steuben street, between Brightwood and Sherman avenues nw.	Mr. Horton Simpson, 6 Iowa Circle.
Reservoir.....	Conduit road, near reservoir.....	Mr. H. W. Draper, 2905 P street nw.
Tenley.....	Tenley.....	Mr. W. B. Ireland, Tenley.
Woodburn.....	Riggs and Blair roads.....	Miss H. E. King, 5th and Morrison streets nw.
<i>Colored.</i>		
Brightwood.....	Military road.....	Mr. A. P. Lewis, 1809 13th street nw.
Fort Slocum.....	Fort Slocum.....	Mr. R. L. Mitchell, 2213 7th street nw.
Grant Road.....	Grant road, near Connecticut avenue extended.	Mrs. L. I. Hawkesworth, 1144 15th street nw.
Ivy City.....	Ivy City.....	Mr. A. O. Stafford, 2234 11th street nw.
Little Falls Road..	Little Falls road.....	Mr. U. G. Black, 1940 11th street nw.
Mott.....	6th and Trumbull streets nw.....	Dr. W. B. Evans, 1926 12th street nw.
Wilson.....	Central avenue, between Erie and Superior streets nw.	Mr. F. L. Cardozo, jr., 1341 V street nw.

EIGHTH DIVISION.

(City and county.)

Supervising principal, Mr. J. T. FREEMAN.

Office, Tyler School; residence, Kensington, Md.

<i>White.</i>		
Buchanan.....	E street, between 13th and 14th streets se.	Miss S. A. Tichenor, Mount Vernon Flats.
Cranch.....	12th and G streets se.....	Miss M. J. Peabody, 725 13th street se.
Tyler.....	11th street, between G and I streets se.	Miss S. A. Langley, 311 6th street se.
Benning.....	Benning.....	Mr. J. H. Voorhees, Benning.
Congress Heights..	Congress Heights.....	Mr. H. F. Lowe, Falls Church, Va.
Good Hope.....	Good Hope.....	Miss E. E. Troutman, 233 2d street se.
Van Buren and annex.	Anacostia.....	Mr. S. M. Ely, 221 E street nw.
Twining City.....	Twining City.....	Miss A. R. Williamson, 240 9th street ne.
<i>Colored.</i>		
Benning Road.....	Near Benning.....	Mr. J. E. Syphax, 1631 L street nw.
Birney.....	Howard avenue, Hillsdale.....	Miss F. J. Smith, 1416 17th street nw.
Hillsdale.....		
Burrville.....	Burrville.....	Mr. H. W. Lewis, 1115 Q street nw.
Garfield.....	Garfield.....	Dr. F. J. Cardozo, 301 2d street sw.

NINTH, TENTH, AND ELEVENTH DIVISIONS (*Colored*).

SUPERINTENDENT.

G. F. T. COOK, Sumner School.

CLERK.

J. W. F. SMITH, Sumner School.

DIRECTORS OF SPECIAL WORK.

Director of primary work.....	E. F. G. Merritt (Miss).....	1109 I street nw.
Assistant director of primary work.....	N. T. Jackson (Miss).....	318 M street nw.
Music	H. F. Grant.....	1215 W street nw.
	J. T. Layton.....	1722 10th street nw.
Director of drawing.....	T. W. Hunster.....	1476 Kenesaw avenue.
Director of manual training.....	J. H. Hill.....	227 Wilson street nw.
Director of cooking.....	M. B. Cook (Miss).....	215 Prince street, Alexandria, Va.
Director of sewing.....	C. E. Syphax (Miss).....	1447 Pierce place nw.
Director of physical culture.....	H. B. George (Miss).....	619 B street ne.

HIGH AND NORMAL SCHOOLS.

Name of building.	Location of building.	Name of principal.
Normal school.....	Magruder school, M street near Seventeenth street nw.	Miss L. E. Moten, 728 Fourth street nw.
High school.....	M street, between First street and New Jersey avenue nw.	Dr. W. S. Montgomery, 1912 Eleventh street nw.

NINTH DIVISION.

Supervising principal, Mr. H. P. MONTGOMERY.

Office, Sumner School; residence, 1928 Eleventh street nw.

Briggs.....	E and Twenty-second streets nw....	Mr. F. L. Cardozo, 1323 V street nw.
Garrison.....	Twelfth street, between R and S streets nw.	Miss K. U. Alexander, 1512 Pierce place nw.
Magruder.....	M street, between Sixteenth and Seventeenth streets nw.	Miss L. E. Moten, 728 Fourth street nw.
Miner.....	17th and Madison streets nw.	Miss A. M. Mason, 2218 I street nw.
Phillips.....	N street, between Twenty-seventh and Twenty-eighth streets nw.	Miss G. F. Smith, 1613 Madison street nw.
Stevens.....	Twenty-first street, between K and L streets nw.	Mr. J. B. Clark, 1633 Eleventh street nw.
Sumner.....	M and Seventeenth streets nw.....	Miss M. E. Gibbs, 1741 20th street nw.
Wormley.....	Prospect street, between Thirty-third and Thirty-fourth streets nw.	Miss A. T. Howard, 2209 Fourteenth street nw.

TENTH DIVISION.

Supervising principal, Dr. J. H. N. WARING.

Office, John F. Cook School; residence, 1932 Eleventh street nw.

Banneker.....	3d street, between K and L streets nw.	Mr. J. W. Cromwell, 1439 Pierce place nw.
Douglass.....	1st and Pierce streets nw.....	Miss H. A. Hebborn, 1137 24th street nw.
Garnet.....	U and 10th streets nw.....	Miss S. C. Lewis, 1120 19th street nw.
John F. Cook.....	O street, between 4th and 5th streets nw.	Miss Lucinda Cook, 2224 6th street nw.
Jones.....	L and 1st streets nw.....	Miss K. C. Lewis, 1823 Vermont avenue.
Logan.....	3d and G streets ne.....	Mr. J. C. Nalle, 1429 Pierce place nw.
Patterson.....	Vermont avenue, near U street nw..	Miss C. A. Patterson, 1532 15th street nw.
Slater.....	P street, between North Capitol and 1st streets nw.	Miss E. A. Chase, 1109 I street nw.

ELEVENTH DIVISION.

Supervising principal, Mr. E. W. BROWN.

Office, Lincoln School; residence, 924 Twenty-fourth street nw.

Name of building.	Location of building.	Name of principal.
Ambush	L street, between 6th and 7th streets sw.	Miss A. S. Bailey, 421 8th street sw.
Anthony Bowen...	9th and E streets sw.....	Miss J. C. Grant, 1448 Pierce place nw.
Bell.....	1st street, between B and C streets sw.	Miss L. F. A. Dyson, 101 7th street se.
Giddings	G street, between 3d and 4th streets se.	Miss L. A. Smith, 903 U street nw.
Lincoln.....	2d and C streets se.....	Miss M. P. Shadd, 2110 14th street nw.
Lovejoy	12th and D streets ne.....	Miss R. T. Baldwin, 1234 4th street nw.
Payne	15th and C streets se.....	Mr. M. G. Lucas, Anacostia, D. C.
Randall.....	1st and I streets sw.....	Miss M. E. Tucker, 413 B street se.

REPORT OF THE BOARD OF TRUSTEES, PUBLIC SCHOOLS.

WASHINGTON, D. C., *November 9, 1897.*

The board of trustees of the public schools of the District of Columbia submit this their report for the year ending June 30, 1897, together with the reports of the superintendents and director of high schools, the reports of the supervising principals, and those of the heads of the departments of special instruction.

We believe these reports to be the result of careful and conscientious labor, the fruit of years of experience. They are not only instructive as showing the condition of the schools, the growth of the schools, and of the system of instruction therein imparted, but they are of great value in the light thrown by them on the right methods of teaching. We commend these reports, and especially that of Superintendent Powell, to the attention of the honorable Commissioners and of the people of the District.

The methods discussed and explained by Superintendent Powell involve, we believe, the true theory of teaching; and while those methods are not now new in the District schools, or in the country, but have been well tested and found good, and are approved by the highest authorities, they are radically different from those used in the schools in which those of us of mature years were instructed. We fear that very few of the people of the District have taken pains to examine the schools, or the methods of training used therein. We are so accustomed to consider the duties of citizenship as beginning and ending in the payment of taxes, that we are inclined to leave to the exclusive care of the general government the education of our children. Advance in the matter of education of children has kept pace, of late years, with material progress; and the skilful teacher of today reaps no longer in his field with the rude sickle of his forefather.

Superintendent Powell has well set forth the new methods. Many, perhaps most of us, can compare them with the old, and it will be well for us to do so.

Most of us of mature years, at least, well remember our early experiences in the schools, when, untrained and without habits of application, we were set to learn the alphabet and spelling and arithmetical tables, dry and bare elements, utterly irrelevant to anything which we knew of life or its surroundings, and absolutely without interest to us.

To this we were forced by the old method; and we went into the school-house silent and slow, and escaped with shouts and speed. We know now, or may know, that the reason of this was not in the child, but in the method of teaching. The old method began at the wrong end and proceeded in an inverted order. The child, warm with new life, beginning to learn only through his senses, in electric contact with the living world, was insulated upon a stool and completely shut off from his normal surroundings. In his ears were rattled first the letters of the alphabet, the dry bones of human speech, the uses of which he did not perceive. He committed to memory signs and rules and definitions and forms, things not useful in themselves, and of no use or interest to anyone except as a means of access to the knowledge and experiences of other men.

The weak child was set to batter down the walls of the citadel of learning that he might come at the experiences of others, as if he could have no original experiences of his own, and could learn or grow only by the experiences of other men and not by his own.

His hardest work was the first, and the first given was his least nourishing intellectual food. He was crammed with abstractions. He asked for food and he was given a stone.

The children were broken in as wild colts on the plains, by bit and spur. If a horse survives the process, he is a good horse, else he would not survive. If a boy had the mental and moral force to overcome the hard beginning, he became a good scholar in spite of the training. If he did not, he was set down as a blockhead, and so thought himself, unless by chance, in after years, by some fortunate accident he found out otherwise, and so got to the head of the class in the more sensible and practical school of human life.

In these schools all the rudiments, the whole mechanical outfit, had to be acquired first before the means of growth and nourishment and incentive to work could be gained. The child must make his severest mental application before he knew how to apply, and was expected to study hardest before he knew how to study, and must be scholar enough to master dry details before he could be a scholar at all—as logical as the Irishman who said he could never get his boots on until he had worn them awhile.

In consequence there was invented, or suggested by the devil, the system of rewards and punishments, encouraging sneaks and tending to break down the moral character and promote lying and deceit. The misery inflicted and the evil engendered by this has been immeasurable, and all because of variance with nature in the order and method of teaching, because schools have been "scholastic" and the "humanities" inhuman, tainted with the artificial and cloister life of the middle ages, by regular descent.

The new learning or method of learning reverses all this. It begins as nature begins, first with the senses, with things, before the *symbols* of things.

It takes advantage of the child's aptitude and interest in things about him and in the exercise of his senses, and in cultivating and directing these it interweaves the rudiments of book learning. It teaches things and acts, and then the names of things and acts; these first, and afterwards their relations—the words and expressions indicating those relations. With these come spelling and writing in their order, and growing out and almost forming part of the training of the senses. With all this—accompanying all this—is instruction by precept and example in the proper forms of expression. Thus the alphabet, reading, spelling, and grammar are made to grow out of and accompany the instruction and development and direction of the senses, and as the child perceives the ends and reasons for these, it proceeds from concrete to abstract. From things known and familiar and of interest, it goes on to things unknown and unfamiliar, and carries along the same interest, and needs no whip or spur or reward or punishment. Essentially it is teaching by parables, the method of the Teacher of all teachers; and it is strange that the world has been so long in finding out that this is the proper method for the schools. At last the teacher is in front of the children and leading them on. Lately he was in the rear, as if driving cattle to market. Those of us who remember with what pain we were compelled to hard and unintelligible tasks, to dig from books as dry as dust, and to recite to teachers whose sole business was to find out how much or how little we had learned, will not deny to the present generation the benefits of any method which promises to reverse this.

The method, however, has one disadvantage. It can not be made to work itself out automatically; it is too human for that. It must have the living teacher, who shall be really an educator, to lead the child outward and upward, not as by the old method, by vainly solving his tasks for him, but by leading him on to new truth, to new outlook, and to new insight. The exercise is honest and healthful both for the teacher and scholar, and involves only honest methods. We believe that when thoroughly established it will abolish the class of dunces, and although it will not make all children equal, it will render all progressive and bring out all according to their ability, and will make teaching the work of love and not of fear and hate; and that it may be made not only to impart sound instruction, but also to foster sound morals.

For these reasons we are heartily in accord with the suggestions of the superintendent, and we believe that the community should sustain him in his plans and methods, and should favor appropriations necessary and now sought and recommended for the establishment of manual-training high schools on a large and adequate scale.

We do not omit the recommendation heretofore so often made for an increase in the salary of teachers. How little they receive is well known, scarcely averaging more than the pay of messengers in the Departments, although to their ability and efforts are intrusted the whole result involved in all the expenditure for schools and buildings

and equipments. They are the cutting edge of the whole machine, and more than any other class determine the direction and force, intellectually at least, of the coming generation.

We repeat the recommendation made last year for an assistant to Superintendent Powell, believing this would be wise economy.

We beg also to remind the Commissioners that the growth of the city, in population and extent, requires also more school room and new buildings. This need is emphasized and made acute by the unusual growth of some localities, and the need is also chronic as well as increasing.

It hardly needs to be suggested that wise economy also requires that the buildings shall be kept in proper repair, and the appropriations recommended for this purpose are none too great.

While we do not recommend compulsory attendance, we think it would be wise to have some official whose duty it should be to ascertain the exact amount of nonattendance.

The increase in attendance during the past year in the day schools was 531. Total number of scholars in the day in the year ending June 30, 1897, was 42,995, and the number in the night schools was 2,920. But these numbers do not by any means include all the children of the District of proper school age.

The sanitary condition of the school buildings during the past year has been good. The board desires to acknowledge in this connection the valuable aid rendered by Dr. Woodward, of the Health Office, who has given the matter his earnest attention, and to whose wise counsel the board is indebted. The buildings in the humblest as well as in the highest parts of the city have been well warmed, well ventilated, clean, and in good condition, and we believe that the schools have been well conducted and profitable, and have repaid abundantly the expenditures made for them. •

The board desires to express its appreciation of the interest taken in the schools by the Commissioners of the District of Columbia, and the kindly attention and ready assistance which they have always rendered.

J. W. WHELPLEY,

President Board of Trustees.

THE COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

REPORT OF SUPERINTENDENT W. B. POWELL.

GENTLEMEN: I have the honor to present herewith, for the year ending June 30, 1897, a report of the management and present condition of the schools of the first eight divisions, and a consolidated statement of the attendance and other important items relating to all the schools under your charge. This last-named statement has been made by uniting facts presented by Superintendent Cook with those of like kind found in my report, being given here for your convenience in getting a general view.

Number of pupils enrolled:

First eight divisions.....	30, 141
Ninth, tenth, and eleventh divisions.....	12, 854
Total	42, 995
Number of white pupils (male, 13,530; female, 14,267).....	27, 797
Number of colored pupils (male, 6,689; female, 8,509).....	15, 198
Total (male, 20,219; female, 22,776).....	42, 995
Number of pupils in city schools (white, 24,752; colored, 12,854).....	37, 606
Number of pupils in county schools (white, 3,045; colored, 2,344).....	5, 389
Total (white, 27,797; colored, 15,198).....	42, 995
Number of male pupils (white, 13,530; colored, 6,689).....	20, 219
Number of female pupils (white, 14,267; colored, 8,509).....	22, 776
Total	42, 995

	Male.	Female.	Total.
Number of pupils in normal schools.....	8	88	96
Number of pupils in high schools.....	1, 159	1, 778	2, 937
Number of pupils in grades below the high schools.....	19, 052	20, 910	39, 962
Total.....	20, 219	22, 776	42, 995

Per cent of teachers: White, 66.8; colored, 33.2. Male, 13.72; female, 86.28.

ENROLLMENT.

The number of pupils enrolled was 42,995—27,797 white, and 15,198 colored. This shows an increase of 531, or 1.25 per cent over the enrollment of the previous year.

The average enrollment was 35,681, or 2.99 per cent above that of the year previous.

The average number of pupils in daily attendance was 33,313.

TEACHERS.

There were employed 1,071 teachers, as follows:

	Male.	Female.	Total.
First eight divisions	101	662	763
Ninth, tenth, and eleventh divisions	46	262	308
Total	147	924	1,071
Number of white teachers	84	631	715
Number of colored teachers	63	293	356
Total	147	924	1,071
City schools:			
White	72	576	648
Colored	46	262	308
Total	118	838	956
County schools:			
White	12	55	67
Colored	17	31	48
Total	29	86	115

The teachers were distributed as follows:

	White.	Colored.	Total.
Supervisors	11	3	14
Normal schools	9	5	14
High schools	96	26	122
Grammar schools	229	85	314
Primary schools	306	199	505
Drawing	8	6	14
Music	6	4	10
Physical culture	6	4	10
Manual training	16	8	24
Cooking	12	5	17
Sewing	15	8	23
Assistant to supervisors		3	3
Librarian	1		1
Total	715	356	1,071

The day schools cost—

For teachers and supervisors	\$743,297.97
For janitors	57,238.55
For rent	14,188.00
For fuel	34,873.49
For contingent expenses, including printing, etc.	26,712.48
For free text-books and supplies	37,864.49
For industrial instruction, including manual training, cooking, sewing.	8,713.32
For flags	1,000.00
For furniture	4,895.49
For buildings and repairs to buildings	182,514.26
Total	1,111,298.05

The relative numbers enrolled in the different grades of our schools are shown by the following:

Per cent of whole enrollment.

Schools.	White.	Colored.
In normal schools.....	0.24	0.20
In high schools.....	7.92	4.84
In grammar schools.....	37.58	25.56
In primary schools.....	54.26	69.40
Total.....	100.00	100.00

There were enrolled in the night schools 1,315 white and 1,605 colored persons. These were taught by 59 teachers, of whom 27 were white and 32 colored.

The night schools cost—

For teachers.....	\$5,973.00
For incidental expenses.....	362.98
Total.....	6,335.98

The day schools were in session 183 days; the night schools were open 56 nights in the first eight divisions, and 45 nights in the ninth tenth, and eleventh divisions.

The total number of persons benefited by the schools was 45,915.

TABLE I.—*Showing attendance and cost of white and colored schools.*

	White.	Colored.	Total.
Whole enrollment:			
Normal schools.....	66	30	96
High schools.....	2,201	736	2,937
Grammar and primary schools.....	25,530	14,432	39,962
Total.....	27,797	15,198	42,995
Increase for the year.....	508	23	531
Per cent of increase.....	1.86	.15	1.25
Average enrollment:			
Normal schools.....	65	30	95
High schools.....	1,919	640	2,559
Grammar and primary schools.....	21,509	11,518	33,027
Total.....	23,493	12,188	35,681
Increase for year.....	817	221	1,038
Per cent of increase.....	3.60	1.84	2.99
Average attendance:			
Normal schools.....	60	29	89
High schools.....	1,804	614	2,418
Grammar and primary schools.....	19,919	10,887	30,806
Total.....	21,783	11,530	33,313
Increase for the year.....	925	235	1,160
Per cent of increase.....	4.43	2.08	3.60

510 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

TABLE I.—*Showing attendance and cost of white and colored schools—Continued.*

	White.	Colored.	Total.
Whole enrollment:			
Boys	13,530	6,689	20,219
Girls	14,267	8,509	22,776
Total	27,797	15,198	42,995
Whole enrollment in the night schools	1,315	1,605	2,920
Grand total	29,112	16,803	45,915
School buildings:			
Owned	64	35	99
Rented	9	3	12
Total	73	39	111
Schoolrooms: <i>a</i>			
Owned	492	237	729
Rented	47	24	71
Total	539	261	800
Number of teachers:			
Male	84	63	147
Female	631	293	924
Total	715	356	1,071
Night schools	27	32	59
Grand total	742	388	1,130
Cost of tuition per pupil, including supervision (based on average enrollment)			\$20.83
Cost per pupil for all expenses, except repairs and permanent improvements (based on average enrollment)			26.03

a Not including high schools.TABLE II.—*Whole enrollment of pupils in the several kinds and grades of schools for the year ending June 30, 1897.*

	White.	Colored.	Total.
Normal schools	66	30	96
High schools	2,201	736	2,937
Total	2,267	766	3,033
Grammar schools, city:			
Eighth grade	1,927	510	2,437
Seventh grade	2,125	737	2,862
Sixth grade	2,492	888	3,380
Fifth grade	2,908	1,222	4,130
Total	9,452	3,357	12,809
Primary schools, city:			
Fourth grade	2,848	1,658	4,506
Third grade	3,030	1,954	4,984
Second grade	3,011	2,308	5,319
First grade	4,144	2,811	6,955
Total	13,033	8,731	21,764
County schools	3,045	2,344	5,389
Grand total	27,797	15,198	42,995

TABLE III.—*Whole enrollment of pupils, boys and girls, white and colored, in the District of Columbia, by grades, for the school year ending June 30, 1897.*

Grade.	Whole enrollment.			
	Boys.	Girls.	Total.	Per cent.
Normal schools.....	8	88	96	0.22
High schools.....	1,159	1,778	2,937	6.83
Eighth grade.....	1,182	1,549	2,731	6.35
Seventh grade.....	1,395	1,784	3,179	7.40
Sixth grade.....	1,697	2,070	3,767	8.76
Fifth grade.....	2,257	2,399	4,656	10.83
Fourth grade.....	2,436	2,714	5,150	11.98
Third grade.....	2,834	2,974	5,808	13.51
Second grade.....	3,052	3,144	6,196	14.41
First grade.....	4,199	4,276	8,475	19.71
Total.....	20,219	22,776	42,995	100.00
SUMMARY.				
Normal and high schools.....	1,167	1,866	3,033	7.05
Grammar schools.....	6,531	7,802	14,333	33.34
Primary schools.....	12,521	13,108	25,629	59.61
Total.....	20,219	22,776	42,995	100.00

The number of schools below the high schools was as follows:

	White.	Colored.	Total.
Grammar schools, city:			
Eighth grade.....	43	11	54
Seventh grade.....	47	17	64
Sixth grade.....	55	19	74
Fifth grade.....	59	23	82
Total.....	204	70	274
Primary schools, city:			
Fourth grade.....	60	32	92
Third grade.....	63	37	100
Second grade.....	69	44	113
First grade.....	82	59	141
Total.....	274	172	446
County schools.....	67	48	115
Grand total.....	545	290	835
Number of whole-day schools.....	404	182	586
Number of half-day schools.....	141	110	251
Total.....	545	292	837

The average number of pupils (based on the whole enrollment) was as follows:

	White.	Colored.	Total.
High schools (to a teacher, excluding principal).....	23.1	29.4	24.4
Grammar schools, city:			
Eighth grade.....	44.8	46.3	45.1
Seventh grade.....	45.2	43.3	44.7
Sixth grade.....	45.3	46.7	45.7
Fifth grade.....	49.3	53.1	50.4
Primary schools, city:			
Fourth grade.....	47.4	51.8	48.9
Third grade.....	48.1	52.8	49.8
Second grade.....	43.6	52.4	47.1
First grade.....	50.5	47.6	49.3
County schools.....	45.4	48.0	46.8

One thousand seventy-one teachers were employed, as follows:

	White.	Colored.	Total.
Supervising principals.....	11	3	14
Normal schools.....	9	5	14
High schools.....	96	26	122
Total.....	116	34	150
Grammar schools, city:			
Eighth grade.....	43	11	54
Seventh grade.....	47	17	64
Sixth grade.....	55	19	74
Fifth grade.....	59	23	82
Total.....	204	70	274
Primary schools, city:			
Fourth grade.....	58	32	90
Third grade.....	61	35	96
Second grade.....	67	42	109
First grade.....	78	57	135
Total.....	264	166	430
County schools.....	67	48	115
Teachers of music.....	6	4	10
Teachers of drawing.....	8	6	14
Teachers of manual training.....	16	8	24
Teachers of cooking.....	12	5	17
Teachers of sewing.....	15	8	23
Teachers of physical culture.....	6	4	10
Assistants to supervisors.....		3	3
Librarian.....	1		1
Grand total.....	715	356	1,071

The cost of the schools for supervision and teaching was as follows:

	White.	Colored.	Total.
Supervision:			
1 superintendent	\$3,300.00	\$2,250.00	\$5,550.00
8 supervising principals, each \$2,000	16,000.00		16,000.00
2 supervising principals, each \$2,000		4,000.00	4,000.00
1 supervising principal		1,800.00	1,800.00
1 director primary work	1,500.00		1,500.00
2 assistant directors primary work	1,500.00		1,500.00
1 librarian	600.00		600.00
3 assistants to supervisors		1,650.00	1,650.00
1 clerk	1,200.00	800.00	2,000.00
1 messenger	300.00	200.00	500.00
Total	24,400.00	10,700.00	35,100.00
Cost per pupil, estimated on average enrollment	<i>a</i> .96	<i>b</i> 1.02	.98
Tuition:			
Normal schools—			
1 principal	1,500.00	1,500.00	3,000.00
2 teachers	2,400.00		2,400.00
2 teachers	1,800.00		1,800.00
2 teachers		1,600.00	1,600.00
2 teachers	1,350.00		1,350.00
1 teacher		700.00	700.00
1 teacher		650.00	650.00
2 teachers	800.00		800.00
Total	<i>c</i> 7,850.00	<i>d</i> 4,450.00	12,300.00
Cost per pupil, estimated on average enrollment	41.22	46.55	42.42
High schools—			
Principal	2,500.00	2,000.00	4,500.00
Ninety-five teachers	83,459.16		83,459.16
Twenty-five teachers		21,072.50	21,072.50
Total	85,959.16	23,072.50	109,031.66
Cost per pupil, estimated on average enrollment	44.79	36.05	42.61
Grammar schools, city—			
43 eighth, 47 seventh, 55 sixth, 59 fifth grade schools	170,027.14		170,027.14
11 eighth, 17 seventh, 19 sixth, 23 fifth grade schools		56,772.50	56,772.50
Total	170,027.14	56,772.50	226,799.64
Cost per pupil, estimated on average enrollment	20.74	20.94	20.79
Primary schools, city—			
60 fourth, 63 third, 69 second, 82 first grade schools	136,500.66		136,500.66
32 fourth, 37 third, 44 second, 59 first grade schools		85,703.33	85,703.33
Total	<i>e</i> 136,500.66	<i>f</i> 85,703.33	222,203.99
Cost per pupil, estimated on average enrollment	12.57	12.57	12.57
Special teachers—			
6 music teachers, 8 drawing teachers, 6 teachers of physical culture	15,162.00		15,162.00
4 music teachers, 6 drawing teachers, 4 teachers of physical culture		9,579.35	9,579.35
Total	15,162.00	9,579.35	24,741.35
Cost per pupil, estimated on average enrollment .....	.60	.91	.69

a First eight divisions.

b Ninth, tenth, and eleventh divisions.

c This includes the cost of teaching ten practice schools, \$5,170.47.

d This includes the cost of teaching six practice schools, \$3,100.00.

e To be increased by the cost of teaching ten practice schools, \$5,170.47.

f To be increased by the cost of teaching five practice schools, \$3,100.00.

Cost of school for supervision and teaching—Continued.

	White.	Colored.	Total.
Tuition—Continued.			
Manual training—			
Carpentry, 14; metal working, 2; cooking, 12; sewing, 15.....	\$29,380.16	.....	\$29,380.16
Carpentry, 6; metal working, 2; cooking, 5; sewing, 8.....	.....	\$13,560.00	13,560.00
Total.....	29,380.16	13,560.00	42,940.16
Cost per pupil, estimated on average enrollment.....	a 1.16	b 1.30	1.20
County schools—			
67 teachers.....	40,775.84	.....	40,775.84
48 teachers.....	.....	29,405.33	29,405.33
Total.....	40,775.84	29,405.33	70,181.17
Cost per pupil, estimated on average enrollment.....	16.58	16.64	16.61

a First eight divisions.

b Ninth, tenth, and eleventh divisions.

Summary:

Total cost of instruction, including supervision	\$743,297.97
Whole number of pupils enrolled.....	42,995
Average number of pupils enrolled.....	35,681
Average number of pupils in daily attendance.....	33,313
Average cost of instruction, including supervision, estimated on—	
1. Whole enrollment.....	17.28
2. Average enrollment	20.83
3. Average daily attendance.....	22.31

Janitors.

Total amount expended	\$57,238.55
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Contingent expenses.

Total amount expended	\$26,712.48
Average amount per pupil (estimated on average enrollment).....	.75

Free text-books and supplies.

Total amount expended	\$37,864.49
Average amount per pupil (estimated on average enrollment).....	1.12

Industrial instruction.

Total amount expended.....	\$8,713.32
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Rent.

Total amount expended.....	\$14,188.00
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Furniture.

Total amount expended.....	\$4,895.49
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Fuel.

Total amount expended.....	\$34,873.49
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Flags.

Total amount expended.....	\$1,000.00
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SUMMARY.

Amount expended, grand total.....	\$928,783.79
Average cost per pupil (including all high and normal schools) for all expenses except repairs and permanent improvements:	
1. On whole enrollment.....	21.60
2. On average enrollment.....	26.03
3. On average daily attendance.....	27.88

SUPERVISION.

The cost of supervision was:

One superintendent (white).....	\$3,300.00
One superintendent (colored)	2,250.00
Eight supervising principals (white)	16,000.00
Two supervising principals (colored)	4,000.00
One supervising principal (colored)	1,800.00
One director of primary work (white)	1,500.00
Two assistant directors of primary work (white)	1,500.00
One assistant to supervisors (white)	600.00
Three assistants to supervisors (colored).....	1,650.00
One clerk and secretary (white).....	1,200.00
One clerk (colored)	800.00
One messenger (white).....	300.00
One messenger (colored)	200.00

Total cost of supervision.....	35,100.00
Average cost of supervision per pupil (estimated on average enrollment, 35,681).....	.98

Normal school (first eight divisions).

Number of teachers trained	66
Average attendance	60
Number of teachers employed.....	9
Average salary.....	\$872.22

Normal school (ninth, tenth, and eleventh divisions).

Number of teachers trained	30
Average attendance	29
Number of teachers employed.....	5
Average salary	\$890.00

High school (first eight divisions).

Number of pupils enrolled (girls, 1,257; boys, 944)	2,201
Average enrollment.....	1,919
Average attendance.....	1,804
Per cent of attendance.....	93.9
Average number of cases of tardiness per month.....	329
Number of teachers employed.....	96
Average salary paid	\$895.41
Cost of tuition per pupil (estimated on average enrollment)	\$44.79

High school (ninth, tenth, and eleventh divisions).

Number of pupils enrolled.....	736
Average enrollment	640
Average attendance.....	614
Per cent of attendance.....	95.9
Average number of cases of tardiness per month.....	51.1
Number of pupils dismissed.....	1
Number of teachers employed.....	26
Average salary paid.....	\$887.40
Cost of tuition per pupil (estimated on average enrollment)	\$36.05

Grammar and primary schools.

	White.	Colored.	Total.
Number of pupils enrolled.....	25,530	14,432	39,962
Average enrollment.....	21,509	11,518	33,027
Average attendance.....	19,919	10,887	30,806
Per cent of attendance.....	92.6	94.9	93.4
Average number of cases of tardiness per month.....	2,026	532	2,558
Number of pupils dismissed.....	8	1	9
Number of cases of corporal punishment.....	32	53	85
Number of teachers employed.....	535	284	819
Average salary paid.....	\$649.17	\$605.22	\$633.92
Average number of pupils to a teacher (estimated on average enrollment).....	40.2	40.5	40.3
Cost of tuition per pupil (estimated on average enrollment).....	\$16.15	\$14.92	\$15.72

Special teachers.

	White. <i>a</i>	Colored. <i>b</i>	Total.
Drawing.....	8	6	14
Music.....	6	4	10
Physical culture.....	6	4	10
Average salary paid:			
Drawing.....	\$825.93	\$650.00	\$750.53
Music.....	760.00	772.50	765.00
Physical culture.....	665.83	647.33	658.43
Average cost per pupil for special tuition (estimated on average enrollment).....	.60	.92	.69

a First eight divisions.*b* Ninth, tenth, and eleventh divisions.TABLE IV.—*Whole enrollment of colored pupils in the District of Columbia, by grades, for the school year ending June 30, 1897.*

	Whole enrollment.			
	Boys.	Girls.	Total.	Per cent.
Normal school.....	8	22	30	.20
High school.....	215	521	736	4.84
Eighth grade.....	258	342	600	3.94
Seventh grade.....	353	472	825	5.43
Sixth grade.....	449	578	1,027	6.76
Fifth grade.....	643	790	1,433	9.43
Fourth grade.....	847	1,080	1,927	12.68
Third grade.....	1,058	1,284	2,342	15.41
Second grade.....	1,211	1,496	2,707	17.81
First grade.....	1,647	1,924	3,571	23.51
Total.....	6,689	8,509	15,198	100.00
SUMMARY.				
Normal and high schools.....	223	543	766	5.04
Grammar schools.....	1,703	2,182	3,885	25.56
Primary schools.....	4,763	5,784	10,547	69.40
Total.....	6,689	8,509	15,198	100.00

Free text-books and supplies.

Books.	Quantity.	Cost.	Supplies.	Quantity.	Cost.
Aesop's Fables.....	120	\$27.60	Beans.....bushels..	96	\$118.08
Algebras.....	120	107.00	Cans, for clay.....	26	62.40
Arithmetics:			Chalk, crayon.....gross..	3,500	166.25
Advanced.....	1,236	655.03	Clay.....barrels..	74	111.00
Elements.....	1,248	292.24	Colors.....boxes..	3,950	477.26
Intellectual.....	168	32.76	Do.....cakes..	14,502	145.16
Arithmetic readers:			Color brushes.....	370	7.40
For second grade.....	732	118.95	Compasses.....dozen..	55	79.20
For third grade.....	684	139.65	Dumb-bells.....pairs..	50	10.50
Civil Government.....	168	128.30	Dumb-bell hooks.....do..	75	6.75
Child's Health Primer.....	390	91.00	Envelopes.....	22,000	44.00
Copy books.....	13,788	876.11	"Galatea".....yards..	645½	80.75
Dictionaries.....	2,856	2,713.20	Glue.....pints..	312	83.92
Drawing books.....	300	33.75	Ink.....quarts..	3,060	459.00
Essentials of Health.....	132	91.08	Measures:		
Evangeline.....	792	85.80	Dry.....sets..	3	4.95
Geographical Reader.....	24	11.40	Liquid.....do..	8	2.80
Geographies:			Models.....boxes..	409	51.12
Elementary.....	1,908	859.00	Paper:		
Grammar School.....	1,668	1,671.30	Blocks.....	6,000	180.00
The World and its People.....	2,436	1,086.90	Cardboard.....sheets..	12,400	186.00
Geology.....	180	147.00	Colored.....packs..	4,185	683.50
Government and Adminis-			Composition, No. 1..do..	21,988	1,594.13
tration, Willoughby.....	89	53.40	Composition, No. 2..do..	24,000	1,640.00
Grammars.....	2,172	1,212.70	Composition, No. 3..do..	33,000	2,392.50
Hans Andersen's Stories.....	72	19.92	Drawing.....reams..	593	295.76
Histories:			Drawing tablets:		
A Story of Two Inaugu-			Large.....	9,221	210.70
rations.....	6,000	122.51	Small.....	22,448	331.11
Barnes.....	216	168.30	Examination.....reams..	3,014	2,953.72
Eggleston.....	60	49.10	Practice.....packs..	44,230	2,598.52
Fiske.....	456	351.50	Pencils.....gross..	1,301	1,105.85
Johnston.....	312	262.08	Penholders.....do..	150	103.50
Montgomery.....	72	57.72	Pens.....do..	3,975	1,280.00
Ridpath.....	54	33.66	Pointers.....dozen..	12	19.20
Washington Day by Day.....	200	300.00	Rubbers:		
Hygiene for Young People....	336	130.48	Blackboard.....dozen..	212	74.20
Legend of Sleepy Hollow.....	1,164	29.10	Diamond.....pounds..	71	51.12
Miles Standish.....	516	55.90	Rulers:		
Music readers:			Brass edge.....dozen..	15	6.75
First.....	3,852	995.10	Plain edge.....do..	50	15.00
Second.....	936	281.28	Squares.....do..	28	17.92
Music pamphlets.....	420	33.60	Tools for clay.....do..	235	152.75
Old Greek Stories.....	588	210.70	Wand racks.....	2	1.80
Our Continent.....	120	72.50	Wands.....	144	7.50
Readers:			Total cost.....		17,812.04
Primer and First.....	4,404	757.13	ADDITIONAL EXPENSES.		
Second.....	2,148	608.24	Salary of custodian.....		900.00
Third.....	2,089	808.21	Blank books and printing.....		79.12
Fourth.....	2,034	971.04	Hauling and labor.....		573.18
Intermediate.....	240	109.60	Wrapping paper and twine.....		26.53
Fifth.....	1,152	778.70	Freight, etc.....		3.54
Snow Bound.....	552	59.80	Total.....		1,582.37
The United States of America.....	67	502.50	Total cost, books.....		18,470.08
Word Analysis.....	99	22.44	Unexpended balance at the		
Word and Sentence Book.....	1,224	244.80	close of the year.....		135.51
Total cost.....		18,470.08	Grand total.....		38,000.00

The number of pupils enrolled in the eight grades that were supplied with free books was 39,962, making the cost per pupil for all supplies \$0.948, and the cost for books alone \$0.463.

The cost for books was distributed as follows:

Grade.	Number of pupils.	Total cost.	Average cost per pupil.
First.....	8,475	\$768.39	\$0.091
Second.....	6,196	1,736.20	.280
Third.....	5,808	1,097.78	.189
Fourth.....	5,150	3,738.42	.726
Fifth.....	4,656	2,893.28	.643
Sixth.....	3,767	2,891.50	.767
Seventh.....	3,179	2,656.13	.835
Eighth.....	2,731	2,588.38	.948
Total.....	39,962	18,470.08	.463

The cost for supplies and miscellaneous items was distributed as follows:

Grade.	Number of pupils.	Total cost.	Average cost per pupil.
First.....	8,475	\$3,121.56	\$0.368
Second.....	6,196	3,597.07	.580
Third.....	5,808	2,639.84	.454
Fourth.....	5,150	3,102.39	.602
Fifth.....	4,656	2,172.37	.466
Sixth.....	3,767	1,884.28	.700
Seventh.....	3,179	1,607.24	.505
Eighth.....	2,731	1,269.66	.465
Total.....	39,962	19,394.41	.485

The cost for books and supplies was distributed as follows:

Grade.	Number of pupils.	Total cost.	Average cost per pupil.
First.....	8,475	\$3,889.95	\$0.459
Second.....	6,196	5,333.27	.859
Third.....	5,808	3,737.62	.643
Fourth.....	5,150	6,840.81	1.328
Fifth.....	4,656	5,165.65	1.109
Sixth.....	3,767	4,775.78	1.267
Seventh.....	3,179	4,263.37	1.341
Eighth.....	2,731	3,858.04	1.412
Total.....	39,962	37,864.49	.948

Table showing the cost of all books and supplies, including miscellaneous expenses, by grades, for each year.

Year.	Number of pupils.	Total cost.	Average cost per pupil.
FIRST GRADE.			
1892	8,005	\$5,748.43	\$0.718
1893	8,076	2,163.90	.268
1894	8,446	3,175.17	.375
1895	8,148	3,464.01	.425
1896	8,472	4,254.93	.502
1897	8,475	3,889.95	.459
SECOND GRADE.			
1892	5,814	3,385.01	.582
1893	5,904	1,883.16	.318
1894	6,014	2,738.26	.455
1895	5,921	3,060.98	.517
1896	6,099	4,740.98	.779
1897	6,196	5,333.27	.859
THIRD GRADE.			
1892	5,390	6,480.37	1.202
1893	5,223	2,555.83	.489
1894	5,153	2,651.40	.514
1895	5,608	5,903.89	1.053
1896	5,687	3,857.10	.678
1897	5,808	3,737.62	.643
FOURTH GRADE.			
1892	4,877	9,165.19	1.879
1893	5,011	2,549.24	.508
1894	4,776	2,460.98	.515
1895	4,725	3,179.00	.673
1896	5,055	3,619.89	.716
1897	5,150	6,840.81	1.328
FIFTH GRADE.			
1893	4,357	9,835.50	2.257
1894	4,602	3,037.87	.660
1895	4,538	3,966.63	.874
1896	4,404	3,008.22	.681
1897	4,656	5,165.65	1.109
SIXTH GRADE.			
1893	3,548	15,407.45	4.342
1894	3,598	2,922.79	.815
1895	3,945	2,806.37	.711
1896	3,900	7,804.70	2.001
1897	3,767	4,775.78	1.267
SEVENTH GRADE.			
1894	2,986	15,738.94	5.271
1895	3,145	3,735.79	1.208
1896	3,199	4,342.00	1.357
1897	3,179	4,263.37	1.341
EIGHTH GRADE.			
1894	2,570	14,594.87	5.678
1895	2,685	3,497.85	1.274
1896	2,658	3,229.53	1.211
1897	2,731	3,858.04	1.412

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Table showing the cost of books, by grade, for each year.

Year.	Number of pupils.	Total cost.	Average cost per pupil.
FIRST GRADE.			
1892	8,005	\$3,954.95	\$.494
1893	8,076	134.84	.017
1894	8,446	501.36	.059
1895	8,148	744.94	.091
1896	8,472	985.45	.116
1897	8,475	768.39	.091
SECOND GRADE.			
1892	5,814	1,793.70	.308
1893	5,904	48.65	.008
1894	6,014	498.28	.082
1895	5,921	1,221.36	.206
1896	6,099	1,287.34	.211
1897	6,196	1,736.20	.280
THIRD GRADE.			
1892	5,390	4,209.92	.781
1893	5,223	207.24	.040
1894	5,153	507.56	.098
1895	5,608	3,767.94	.672
1896	5,687	1,421.96	.250
1897	5,808	1,097.78	.189
FOURTH GRADE.			
1892	4,877	7,670.16	1.573
1893	5,011	249.87	.049
1894	4,776	489.27	.102
1895	4,725	1,301.34	.275
1896	5,055	1,673.12	.330
1897	5,150	3,738.42	.726
FIFTH GRADE.			
1893	4,657	6,684.67	1.533
1894	4,602	346.50	.075
1895	4,538	2,255.35	.497
1896	4,404	909.88	.207
1897	4,656	2,993.28	.643
SIXTH GRADE.			
1893	3,548	12,796.60	3.606
1894	3,598	768.74	.216
1895	3,945	1,334.56	.338
1896	3,900	5,961.83	1.528
1897	3,767	2,891.50	.767
SEVENTH GRADE.			
1894	2,986	14,108.90	4.725
1895	3,145	2,300.78	.744
1896	3,199	3,145.02	.983
1897	3,179	2,656.13	.835
EIGHTH GRADE.			
1894	2,570	13,143.70	5.114
1895	2,685	1,663.81	.608
1896	2,658	2,094.15	.787
1897	2,731	2,588.38	.948

Table showing cost of supplies and of miscellaneous items, by grades, for each year.

Year.	Number of pupils.	Total cost.	Average cost per pupil.
FIRST GRADE.			
1892	8,005	\$1,793.00	\$.224
1893	8,076	2,029.06	.251
1894	8,446	2,674.81	.316
1895	8,148	2,719.07	.334
1896	8,472	3,269.48	.386
1897	8,475	3,121.56	.368
SECOND GRADE.			
1892	5,814	1,591.31	.274
1893	5,904	1,834.51	.310
1894	6,014	2,239.98	.372
1895	5,921	1,839.62	.311
1896	6,099	3,453.64	.564
1897	6,196	3,597.07	.580
THIRD GRADE.			
1892	5,390	2,270.45	.421
1893	5,223	2,348.59	.449
1894	5,153	2,143.84	.416
1895	5,608	2,135.95	.381
1896	5,687	2,435.14	.428
1897	5,808	2,639.84	.454
FOURTH GRADE.			
1892	4,877	1,495.03	0.306
1893	5,011	2,299.37	.459
1894	4,776	1,971.71	.413
1895	4,725	1,877.66	.398
1896	5,055	1,946.77	.385
1897	5,150	3,102.39	.602
FIFTH GRADE.			
1893	4,657	3,150.83	.724
1894	4,602	2,691.37	.585
1895	4,538	1,711.28	.377
1896	4,404	2,098.34	.476
1897	4,656	2,172.37	.466
SIXTH GRADE.			
1893	3,548	2,610.85	.726
1894	3,508	2,154.05	.599
1895	3,945	1,471.81	.373
1896	3,900	1,842.87	.472
1897	3,767	1,884.28	.700
SEVENTH GRADE.			
1894	2,986	1,630.04	.546
1895	3,145	1,435.01	.464
1896	3,199	1,196.98	.374
1897	3,179	1,607.24	.505
EIGHTH GRADE.			
1894	2,570	1,451.17	.564
1895	2,685	1,834.04	.670
1896	2,658	1,135.38	.427
1897	2,731	1,269.66	.465

TABLE V.—*Growth of the schools since the year 1880.*

School year ending June 30—	Average number of pupils enrolled.					
	First eight divisions.		Ninth, tenth, and eleventh divisions.		Total.	
	Number.	Per cent of increase.	Number.	Per cent of increase.	Number.	Per cent of increase.
1880.....	15,027		6,573		21,600	
1881.....	15,494	3.10	6,567	a 0.09	22,061	2.13
1882.....	16,063	3.60	6,763	2.98	22,826	3.46
1883.....	16,524	2.80	7,070	4.53	23,594	3.36
1884.....	16,642	0.71	7,225	2.19	23,867	1.11
1885.....	17,468	4.90	7,689	6.42	25,157	5.40
1886.....	18,720	7.10	8,191	6.52	26,911	6.97
1887.....	19,285	3.00	8,448	3.13	27,733	3.05
1888.....	19,762	2.40	8,791	4.06	28,553	2.95
1889.....	20,477	3.60	9,088	3.37	29,565	3.54
1890.....	21,077	2.90	9,289	2.21	30,366	2.70
1891.....	21,599	2.60	9,702	4.25	31,301	3.07
1892.....	22,264	3.00	9,942	2.47	32,206	2.89
1893.....	22,395	0.59	10,097	1.56	32,492	0.89
1894.....	23,483	4.85	10,141	0.43	33,624	3.48
1895.....	23,798	1.32	10,046	a 0.94	33,844	0.65
1896.....	24,347	2.26	10,296	2.48	34,643	2.36
1897.....	25,261	3.75	10,420	1.20	35,681	2.99

a Decrease.

TABLE VI.—*Average enrollment of pupils in the white and colored schools and the number of teachers employed for each year since the year 1880.*

School year ending June 30—	Average enrollment.						Teachers.	
	First eight divisions.		Ninth, tenth, and eleventh divisions.		Total.		Whole number employed.	Increase.
	Number.	Per cent of increase.	Number.	Per cent of increase.	Number.	Per cent of increase.		
1880.....	15,027		6,573		21,600		434	
1881.....	15,494	3.10	6,567	a 0.09	22,061	2.13	461	27
1882.....	16,063	3.60	6,763	2.98	22,826	3.46	485	24
1883.....	16,524	2.80	7,070	4.53	23,594	3.36	505	20
1884.....	16,642	0.71	7,225	2.19	23,867	1.11	525	20
1885.....	17,468	4.90	7,689	6.42	25,157	5.40	555	30
1886.....	18,720	7.10	8,191	6.52	26,911	6.97	595	40
1887.....	19,285	3.00	8,448	3.13	27,733	3.05	620	25
1888.....	19,762	2.40	8,791	4.06	28,553	2.95	654	34
1889.....	20,477	3.60	9,088	3.37	29,565	3.54	693	39
1890.....	21,077	2.90	9,289	2.21	30,366	2.70	745	52
1891.....	21,599	2.60	9,702	4.25	31,301	3.07	795	50
1892.....	22,264	3.00	9,942	2.47	32,206	2.89	845	50
1893.....	22,395	0.59	10,097	1.56	32,492	0.89	895	50
1894.....	23,483	4.85	10,141	0.43	33,624	3.48	942	47
1895.....	23,798	1.32	10,046	a 0.94	33,844	0.65	991	49
1896.....	24,347	2.26	10,296	2.48	34,643	2.36	1,031	40
1897.....	25,261	3.75	10,420	1.20	35,681	2.99	1,071	40

a Decrease.

TABLE VII.—Average enrollment of pupils, the number of teachers employed, the cost of tuition, and rates of increase for each year since 1880.

School year ending June 30—	Average enrollment.		Teachers.		Cost (excluding rent and permanent improvements).		
	Total.	Per cent of increase.	Number employed.	Increase.	Per pupil (based on average enrollment).	Aggregate amount.	Per cent of increase.
1880	21,600	.....	434	.....	\$16.95	\$366,199.51	.....
1881	22,061	2.13	461	27	17.28	381,314.19	4.12
1882	22,826	3.46	485	24	17.44	398,254.54	4.44
1883	23,594	3.36	505	20	17.78	419,594.60	5.35
1884	23,867	1.11	525	20	18.22	435,032.79	3.67
1885	25,157	5.40	555	30	18.66	469,550.51	7.93
1886	26,911	6.97	595	40	17.76	472,993.67	1.79
1887	27,733	3.05	620	25	19.11	509,194.01	6.52
1888	28,553	2.95	654	34	19.11	545,717.71	7.17
1889	29,565	3.54	693	39	20.11	594,774.73	8.98
1890	30,366	2.70	745	52	21.58	655,310.08	10.17
1891	31,301	3.07	795	50	21.44	671,124.08	2.41
1892	32,206	2.89	845	50	22.49	724,521.93	7.95
1893	32,492	.89	895	50	23.93	776,616.53	7.19
1894	33,624	3.48	942	47	24.56	825,992.84	6.36
1895	33,844	.65	991	49	24.78	838,757.60	1.54
1896	34,643	2.36	1,031	40	25.23	882,273.18	5.18
1897	35,681	2.99	1,071	40	26.03	914,595.79	3.66

TABLE VIII.—Whole enrollment of pupils in white and colored schools, the number of teachers employed, and the cost of tuition for each year since the year 1880.

School year ending June 30—	Whole enrollment.						Teachers.		Cost (excluding rent and permanent improvement).		
	First eight divisions.		Ninth, tenth, and eleventh divisions.		Total.		Whole number employed.	Increase.	Per pupil (based on whole enrollment).	Aggregate amount.	Per cent of increase.
	Number.	Per cent of increase.	Number.	Per cent of increase.	Number.	Per cent of increase.					
1880	18,378	.....	8,061	.....	26,439	.....	434	.....	\$13.85	\$366,199.51	.....
1881	19,153	4.21	8,146	1.05	27,299	3.25	461	27	13.96	381,314.19	4.12
1882	19,031	a 0.63	8,289	1.75	27,320	0.07	485	24	14.57	398,254.54	4.44
1883	19,836	4.22	8,710	5.07	28,546	4.48	505	20	14.69	419,594.60	5.35
1884	21,221	6.98	9,167	5.24	30,388	6.45	525	20	14.31	435,032.79	3.67
1885	21,267	0.21	9,598	4.70	30,865	1.56	555	30	15.21	469,550.51	7.93
1886	22,198	4.37	10,138	5.62	32,336	4.76	595	40	14.78	472,993.67	1.79
1887	23,073	3.94	10,335	2.04	33,418	3.34	620	25	15.23	509,194.01	6.52
1888	23,810	3.19	11,040	6.71	34,850	4.28	654	34	15.65	545,717.71	7.17
1889	24,594	3.29	11,170	1.17	35,764	2.62	693	39	16.62	594,774.73	8.98
1890	25,468	3.55	11,438	2.39	36,906	3.19	745	52	17.75	655,310.08	10.17
1891	26,354	3.47	12,132	6.07	38,386	4.01	795	50	17.48	671,124.08	2.41
1892	27,398	3.96	12,280	1.21	39,678	3.36	845	50	18.26	724,521.93	7.95
1893	27,435	0.14	12,329	0.39	39,764	0.22	895	50	19.53	776,616.53	7.19
1894	28,445	3.68	12,233	a 0.78	40,678	2.29	942	47	20.30	825,992.84	6.36
1895	29,078	2.22	12,479	2.01	41,557	2.16	991	49	20.18	838,757.60	1.54
1896	29,588	1.75	12,876	3.26	42,464	2.18	1,031	40	20.59	882,273.18	5.18
1897	30,141	1.87	12,854	a 0.17	42,995	1.25	1,071	40	21.60	914,595.79	3.66

a Decrease.

TABLE IX.—*Amount expended for rent and sites and buildings each year from the year 1880 to the year 1897, inclusive.*

School year ending June 30—	Rent.	Sites and buildings.	School year ending June 30—	Rent.	Sites and buildings.
1880	\$28,908.35	\$74,998.24	1889	\$14,832.00	\$332,312.44
1881	26,506.11	103,416.91	1890	10,000.00	240,467.39
1882	26,472.57	253,609.73	1891	9,892.00	229,078.00
1883	14,805.33	103,141.47	1892	9,602.00	220,344.47
1884	8,742.50	103,563.94	1893	8,951.25	42,270.36
1885	7,060.00	118,400.00	1894	9,825.50	66,939.60
1886	6,919.66	61,130.04	1895	9,648.00	66,408.91
1887	7,354.00	73,085.34	1896	14,736.50	185,601.12
1888	10,215.44	239,115.77	1897	14,188.00	182,514.26

THE FIRST EIGHT DIVISIONS.

The number of pupils enrolled during the year was 30,141—27,797 white and 2,344 colored. This is an increase of 553, or 1.87 per cent, over the number registered last year.

The average enrollment was 25,261, being 914, or 3.75 per cent, in excess of that of the previous year.

The number of pupils in daily attendance was 23,410, being 1,023, or 4.57 per cent, greater than that of the preceding year.

Enrollment of pupils in the several kinds and grades of schools for the school year ending June 30, 1897.

Normal school.....	66
High schools.....	2,201
Total	2,267
Grammar schools:	
Eighth grade	2,221
Seventh grade	2,442
Sixth grade.....	2,879
Fifth grade	3,434
Total	10,976
Primary schools:	
Fourth grade	3,492
Third grade.....	3,854
Second grade	3,888
First grade	5,664
Total	16,898
Grand total	30,141

TABLE X.—Enrollment of pupils in the several kinds of schools for school year ending June 30, 1897, compared with the enrollment of the previous year.

Grade.	Whole enrollment.			
	1896-97.	1895-96.	Increase.	Decrease.
Normal school.....	66	60	6	.....
High schools.....	2,201	2,225	.....	24
Total.....	2,267	2,285	6	24
Grammar schools:				
Eighth grade.....	2,221	2,119	102	.....
Seventh grade.....	2,442	2,458	.....	16
Sixth grade.....	2,879	2,900	.....	21
Fifth grade.....	3,434	3,235	199	.....
Total.....	10,976	10,712	301	37
Primary schools:				
Fourth grade.....	3,492	3,444	48	.....
Third grade.....	3,854	3,766	88	.....
Second grade.....	3,888	3,770	118	.....
First grade.....	5,064	5,611	53	.....
Total.....	16,898	16,591	307	.....
Grand total.....	30,141	29,588	614	61

TABLE XI.—Showing the whole enrollment of white pupils within the city, by grades, for the school year ending June 30, 1897.

Grade.	Whole enrollment.			
	Boys.	Girls.	Total.	Per cent.
Normal school.....	.....	66	66	0.27
High schools.....	944	1,257	2,201	8.88
Eighth grade.....	832	1,095	1,927	7.79
Seventh grade.....	959	1,166	2,125	8.58
Sixth grade.....	1,134	1,358	2,492	10.07
Fifth grade.....	1,459	1,449	2,908	11.75
Fourth grade.....	1,392	1,456	2,848	11.51
Third grade.....	1,569	1,461	3,030	12.24
Second grade.....	1,591	1,420	3,011	12.17
First grade.....	2,145	1,999	4,144	16.74
Total.....	12,025	12,727	24,752	100.00
SUMMARY.				
Normal and high schools.....	944	1,323	2,267	9.15
Grammar schools.....	4,384	5,068	9,452	38.19
Primary schools.....	6,697	6,336	13,033	52.66
Total.....	12,025	12,727	24,752	100.00

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TABLE XII.—*Showing the whole enrollment of white pupils in the first eight divisions (city and county), by grades, for the school year ending June 30, 1897.*

Grade.	Whole enrollment.			
	Boys.	Girls.	Total.	Per cent.
Normal school.....		66	66	0.24
High schools.....	944	1,257	2,201	7.92
Eighth grade.....	924	1,207	2,131	7.66
Seventh grade.....	1,042	1,312	2,354	8.47
Sixth grade.....	1,248	1,492	2,740	9.86
Fifth grade.....	1,614	1,609	3,223	11.59
Fourth grade.....	1,589	1,634	3,223	11.59
Third grade.....	1,776	1,690	3,466	12.47
Second grade.....	1,841	1,648	3,489	12.55
First grade.....	2,552	2,352	4,904	17.65
Total.....	13,530	14,267	27,797	100.00
SUMMARY.				
Normal and high schools.....	944	1,323	2,267	8.16
Grammar schools.....	4,828	5,620	10,448	37.58
Primary schools.....	7,758	7,324	15,082	54.26
Total.....	13,530	14,267	27,797	100.00

TABLE XIII.—*Showing the whole enrollment of pupils (white and colored) in the first eight divisions (city and county) for the school year ending June 30, 1897.*

Grade.	Whole enrollment.			
	Boys.	Girls.	Total.	Per cent.
Normal school.....		66	66	0.22
High schools.....	944	1,257	2,201	7.30
Eighth grade.....	956	1,265	2,221	7.37
Seventh grade.....	1,069	1,373	2,442	8.10
Sixth grade.....	1,304	1,575	2,879	9.55
Fifth grade.....	1,716	1,718	3,434	11.40
Fourth grade.....	1,702	1,790	3,492	11.58
Third grade.....	1,970	1,884	3,854	12.79
Second grade.....	2,031	1,857	3,888	12.90
First grade.....	2,955	2,709	5,664	18.79
Total.....	14,647	15,494	30,141	100.00
SUMMARY.				
Normal and high schools.....	944	1,323	2,267	7.52
Grammar schools.....	5,045	5,931	10,976	36.42
Primary schools.....	8,658	8,240	16,898	56.06
Total.....	14,647	15,494	30,141	100.00

SCHOOLS.

The number of schools below the high schools was as follows:

Grammar schools, city:

Eighth grade.....	43
Seventh grade.....	47
Sixth grade.....	55
Fifth grade.....	59

Primary schools, city:	
Fourth grade	60
Third grade	63
Second grade	69
First grade	82
	<hr/> 274
County schools:	
White	67
Colored	48
	<hr/> 115
Total	<hr/> 593
Number whole-day schools (white, 404; colored, 36)	
Number half-day schools (white, 141; colored, 12)	
	<hr/> 593

The average number of pupils to a school (based on the whole enrollment) was as follows:

High school (to a teacher, excluding principal).....	23.1	Third grade.....	48.1
Eighth grade.....	44.8	Second grade.....	43.6
Seventh grade.....	45.2	First grade.....	50.5
Sixth grade.....	45.3	County schools:	
Fifth grade.....	49.3	White	45.4
Fourth grade.....	47.4	Colored	48.0

TEACHERS.

Seven hundred sixty-three teachers, 662 females and 101 males, were employed as follows:

Supervising principals	11
Normal school	9
High schools	96
	<hr/> 116
Grammar schools, city:	
Eighth grade	43
Seventh grade	47
Sixth grade	55
Fifth grade	59
	<hr/> 204
Primary schools, city:	
Fourth grade	58
Third grade	61
Second grade	67
First grade	78
	<hr/> 264
County schools:	
White	67
Colored	48
	<hr/> 115
Teachers of music	6
Teachers of drawing	8
Teachers of manual training	16
Teachers of cooking	12
Teachers of sewing	15
Teachers of physical culture	6
Librarian	1
	<hr/> 64
Total (white—male, 84, female, 631; colored—male 17, female, 31)	<hr/> 763

The cost of the schools for supervision and teaching was as follows:

Supervision:	
Superintendent	\$3,300.00
Clerk	1,200.00
Messenger	300.00
Eight supervising principals	16,000.00
One director, primary work	1,500.00
Two assistant directors, primary work	1,500.00
One assistant to supervisors	600.00
Total	24,400.00
Cost per pupil, estimated on average enrollment (25,261) .....	.96
Normal school:	
Principal	1,500.00
Two training teachers	2,400.00
Two practice teachers	1,800.00
Four teachers	2,150.00
Total	17,850.00
Cost per pupil, estimated on average enrollment (65)	41.22
High schools:	
Principal	2,500.00
Ninety-five teachers	83,459.16
Total	85,959.16
Cost per pupil, estimated on average enrollment (1,919)	44.78
Grammar schools, city (43 eighth, 47 seventh, 55 sixth, 59 fifth, grade schools)	
.....	170,027.14
Cost per pupil estimated on average enrollment (8,196)	20.74
Primary schools, city (60 fourth, 63 third, 69 second, 82 first, grade schools)	
.....	136,500.66
Cost per pupil, estimated on average enrollment (10,856)	12.57
County schools:	
White (67)	40,775.84
Colored (48)	29,405.53
Cost per pupil, estimated on average enrollment:	
White (2,458)	16.58
Colored (1,767)	16.64
Special teachers (6 music teachers, 8 drawing teachers, 6 teachers of physical culture)	
.....	15,162.00
Cost per pupil, estimated on average enrollment (25,261) .....	.60
Teachers of manual training schools (of carpentry, 14; of metal working, 2; of cooking, 12; of sewing, 15)	
.....	29,380.16
Cost per pupil, estimated on average enrollment (25,261)	1.16
Total cost per pupil, estimated on average enrollment (25,261)	21.35

¹ This includes the cost of teaching ten practice schools, \$5,170.47.

² To be increased by the cost of teaching ten practice schools, \$5,170.47.

TABLE XIV.—*Buildings and rooms occupied (owned and rented) in the first eight divisions at the close of the school year ending June 30, 1897 (excluding the high schools).*

	Divisions.								
	First.	Second	Third.	Fourth.	Fifth.	Sixth.	Seventh	Eighth.	Total.
Buildings owned	8	7	a 9	6	8	9	15	b 14	76
Buildings rented		c 4	d 1	.....	e 3	1	.....	.....	9
Total	8	11	10	6	11	10	15	14	85
Rooms owned	f 78	b 69	g 68	b 55	60	67	b 71	b 67	535
Rooms rented		h 20	i 4	h 2	i 15	4	b 2	.....	47
Total	78	89	72	57	75	71	73	64	582

a One occupied by manual training and sewing schools.

b One occupied by cooking school.

c One occupied by cooking and sewing schools and two by manual training schools.

d Occupied by cooking school and by manual training school.

e One occupied by cooking and sewing (cutting) schools.

f Two occupied by manual training and two by cooking schools.

g One occupied by manual training, one by cooking, and one by sewing school.

h Occupied by sewing (cutting) school.

i One occupied by manual training school.

NIGHT SCHOOLS.

The following table shows the facts of enrollment, attendance, and cost:

Table showing facts relating to night schools.

Schools.	Cost of teachers.	Whole number of persons enrolled during the year.	Average attendance per night.	Percentage of attendance.	Number of sessions.	Number of teachers.
WHITE.						
High school	\$728.00	661	195	81.4	56	7
Franklin school	448.00	90	46	90.8	56	4
Henry school	448.00	141	41	80.9	56	4
Wallach school	448.00	159	58	78.9	56	4
Jefferson school	364.00	104	26	81.5	56	3
Curtis school	168.00	37	9	76.5	56	1
Grant school	156.00	31	17	76.3	52	1
Total	2,760.00	1,223	392	.....	.....	24
Schools of cooking:						
609 O street nw	90.00	60	13	78.6	40	1
Wallach school	90.00	18	12	68.0	40	1
3104 P street nw	90.00	14	7	86.8	40	1
Total	270.00	92	32	.....	.....	3
Total white	3,030.00	1,315	424	78.6	.....	27
COLORED.						
Mott	336.00	116	58	79.4	56	3
Hillsdale	140.00	35	27	83.4	56	1
Wilson	168.00	34	20	82.9	56	1
Total colored	644.00	185	105	.....	.....	5
Grand total	3,674.00	1,500	529	.....	.....	32

SOME PRINCIPLES OF EDUCATION.

It is well to collect and bring to view at intervals the changes that take place from time to time in the purposes of our effort and to examine the growth or change of instrumentalities for its accomplishment. This I have tried to do in the following pages.

I call your attention especially to some of the underlying principles that control in the management of the schools of Washington, and by which we are laboring to make them better, or more nearly what they ought to be. Some problems in education have been solved, I believe, the solution of which will be valuable to us in the future.

I believe that, if we have not settled, we have thrown much light on the problem of teaching the English language, including spelling, with the minimum amount of isolation, and hence of drudgery, and the problem of correctly teaching penmanship, with a minimum of isolation and drudgery, and the problem of determining the value and purposes of manual training. Other problems, equally important, have had much light thrown on them, and are far along in the process of solution. The work of solving these problems or throwing light on them has been accomplished by the cooperative effort of the entire corps of supervisors, principals, and directors of special work, to whose reports, herewith presented, I have the pleasure of calling your interested attention. From the study of these reports an idea of the scope and unity of our work may be obtained, as well as of the coordinated effort of those who direct the teaching.

HOW THE CHILD LEARNS.

Physical feeling and its concomitant or cause, physical action, seem to be conditions of the growth of knowledge and of mind in their first manifestations.

Man's first knowledge came through experience with his environment, things and processes, objects and doings. This experience was had by means of physical action.

Physical action, sensory or motor, or both, is seen to be the ever-present concomitant of early mind growth and first knowledge getting, so far as human observation has found out anything about the matter by a study of the child or by the study of a lower animal.

Study and close observation lead to the inference that the young child's growing and varied knowledge is concomitant with physical action, and a closer study of this knowledge in connection with the action with which it is concomitant for the sake of determining its kind, its meaning, what it is about, what it is, shows that the mind comes to know each class or kind (category) in connection with and presumably by the help of acts of a certain part or a certain set of parts of the physical body. By such observation we are led to believe that physical action has much to do with the process of learning, in its beginning especially.

We find that the sources from which the child can learn, things with which by nature he can act, coexist with him, and furthermore we find that to act with, and consequently to learn from, these, he needs no compulsion. He acts by inborn impulse, for at first he can not be made to act. This we can observe: The child is born surrounded with an abundance of materials, stuff (things and doings, whose relations to the child make of them mind stuff) to act upon and with, and is supplied with tools, organs well adapted to act upon and with them, and appears to be endowed with that "flow of energy" that "pervades everything in nature." The child acts and feels its effects, and soon comes to know that that action will produce the effect, and thus acts again and continues to act for the sake of the effect and presumably for further knowing. At first this seems to be selfish.

The mind seems to be fully and carefully provided by the condition of its coming into the world with the means by which it gains its first knowledge and receives its first growth or its start in knowing. The germ of life in the seed requires proper conditions of moisture under proper conditions of temperature; the embryo chick in the shell requires proper conditions of temperature under proper conditions of moisture; the mind requires the opportunity which is given by its advent into the world—an environment which induces action and then conscious action and then self-directed, purposive action. Further opportunity which must be provided for it will in time produce the plant, which will in turn reproduce its kind, the fulfilment of the promise of the seed; further opportunity which must be given to it will in time produce the bird, which will in turn reproduce its kind, the fulfilment of the promise of the egg; further and continuous opportunity which must be furnished to it will produce a mind which can act and will act for itself upon environment (find out), and thus be able to increase the sum of human knowledge, the fulfilment of the promise of the birth of mind.

The brain is the central organ of knowing. The word "central" is suggestive of other organs. These when found prove to be nerves leading to the brain from all parts of the body, largely extremities, that come in contact with environment by means of end organs adapted to the purpose. But a closer study of nerves, to ascertain under what conditions they act, discloses the fact that they are double-tracked, and that one line leads toward the brain from environment, while the other leads toward environment from the brain. The mind, then, physically considered, so far as can be seen, consists, in outline or general structure, of brain and nerves—a central depot or receiving station or exchange connected with the parts of the body, notably the exterior parts, by numerous double-tracked conduits, the function of one of which is to carry to the brain, and that of the other to carry from the brain.

As soon as we are born the world begins to act on us, and this goes on to the end.—
GOETHE.

Objects and actions, things and processes (environment), were the original educators. They are the mind stuff by means of which as a cause or force and from which as food or nourishment mind first began to act and knowledge to become. They are the first educators of the child. In this school mind got its start. In this school every child that lives to know anything gets his start in knowing. (The becoming of knowledge through action is the building of mind; the memory of acts is the power secured.)

The city, if its factories be not considered, creates no wealth. It adds greatly to wealth by the various friendly offices that it performs on and for values that have their origin elsewhere. Leading to the city are numerous avenues—nerves—ocean ways, lakes, rivers, canals, railroads, turnpikes, and wagon roads. These come from and lead through places where are found the sources of initial values—fisheries, cotton fields, cornfields, woods, grassy plains, mines, decaying rock and sand banks, mills, shops, factories, etc. The conduits add to values by taking commodities where they are wanted and can be disposed of. The city adds to values by storing commodities, each in its proper place, till they are called for, by acting as an exchange place for those who produce different kinds of commodities, and by acting in the capacity of judge or counselor by determining qualities and fixing values, which it does by reason of its opportunity for comparisons and for knowing what quantities are seeking a market or exchange.

The foregoing illustrates what I desire to emphasize, not exact analogy between the structure of mind and the machinery of commerce and its varied values, but the composite character of the mental organism and the relative values of its physical parts. Initial values of knowing are made—born—at the end organs of the avenues that lead to the brain. These, then, and the nerves themselves, as well as the brain, are to be taken into account when the mind is considered as a cultivable thing, something to be trained or improved, or something to be kept in a sound or healthy condition, or something that can be made to grow.

A PURPOSE OF THE SCHOOL.

One of the essential obligations of the school to the child and to society is to insure a symmetrical, healthy growth of the parts of the mind (physical), during the early period of education especially. There comes a time when care for the symmetrical cultivation of these parts is not required. Only during the process of physical growth, probably, is such care necessary. A healthy physical maturity that has been secured by a symmetrical natural development insures the continuance of healthy conditions from action by psychic force and force of physical habit for the demands of pleasure in the very activities that have produced it or activities kindred in nature. The presence of motor nerves shows the self-activity of mind (mind as a source) as the presence of sensor nerves shows source of primary knowledge. Culture, refinement, strength, growth, health, come from action. This law is universal.

It can not be ignored in the cultivation of mind except at perilous risk. The motor conduits must not be neglected, nor must their action be misdirected.

To cultivate mind it must be made to act; to cultivate it and give it a healthy, all round growth during the formative period every part of it must have its due proportion of activity; to cultivate it as a unit the activities required of it must tend to a single purpose, to a common end. Play, exercise of one kind for pleasure or health, and study, exercise of quite another kind and in quite another direction for knowledge, are not according to nature's correlation of activities.

A FUNCTION OF THE SCHOOL.

The chief function of the school as a place for helping mind is to furnish opportunity for the mind of the child to act normally, rationally.

If the child can get experiences enough and get those of the right kind, his mind will be developed and will also be stored with useful knowledge. This will not be questioned.

The number of things and processes, objects, acts, institutions, causes, movements, results of society into which the child is born is very great, but these are readily grouped for purposes or use of study in school. It is indeed through these that the mind is known and by means of a grouping of these that the categories of nerve activities are determined.

The number of sensor nerves is great, as physiology teaches; the number of categories of sensor nerves, however, as judged by the number of categories of knowledge with which, severally, their actions are concomitant, is not great. The brain centers also show these groupings of nerves. The number of motor nerves and groups of motor nerves are probably relatively as those of the sensor nerves. The discussion of this point therefore may be neglected, as a determination of it would be of little value.

We believe and say, flippantly, a healthy growth, one that is valuable and productive, demands a symmetrical cultivation. What does this mean? What is the application of it in school work? We study the child to find something that will help us to decide this and to aid us in planning for the conduct of schools.

An early impulse of mind, as shown by simple observation, is to express itself. The impulse is probably no stronger than is the impulse to know, but it is more manifest, more easily detected. The child's babbling at an early age shows that he knows and that he wants to tell what he knows. The impulse to babble is because of the presence of knowledge in possession seeking an outlet. He continues to babble until by practice and imitation he has learned to express that which he wanted to communicate. This impulse which reveals the social and altruistic nature of the soul gives rise to symbols. Oral symbols are first learned, but oral expressions are not the only symbols that the little child early learns, nor the only symbols that he early uses. He

represents in marks with pencil, with brush, or other instrument; by the adjustment of things in giving form and shape to combinations, making new combinations, and by changing the forms and sizes of things. The same instrumentality that he has used from the time of birth for getting knowledge in obedience to his impulse to know he uses for the purpose of representing what he knows. He builds, he makes. His finger tips show social impulse and altruistic tendencies in early life as much as tongue and voice. This impulse to act with hand is the resultant of knowledge seeking expression. This expression will take the form of the environment from which his soul received the knowledge. He strives to produce it.

In response to this impulse man has represented the oral symbols of what he knows in written symbols for more permanent preservation. Man has babbled until he has symbolized his thoughts in oral speech, and has used his hand in conjunction with his mind to make forms representing this speech, that it may be known by him who may see but who is not pre-ent to hear and that it may be preserved for him who is not yet born. These symbols are recognized and interpreted by other persons who have had the experiences that they represent, or kindred experiences, experiences within the same categories, and may be used under proper restrictions as educational stuff for economy's sake, instead of the experiences.

SOURCES OF KNOWLEDGE.

There are, therefore, two sources of knowledge—two sources of influences—that may be used in the education of the child—original sources and symbolic or representative sources. By original sources is meant any means by which knowledge is obtained through experience. By symbols is meant the representations of experiences. The original sources are objects, acts, institutions, conditions, opinions, that is, environment. They include feelings, tendencies, and even aspirations, whatever may be known by experience effected by the instrumentalities, conditions, and workings of the natural and social world of which the child is a part. Symbols are the records of all that man has known or felt or done, and the representation of all conditions of society, all institutions and governments, all opinions and theories, and all results. Symbols are understood by him who has had experiences in kind which they represent, experiences or kindred experiences in the categories of knowledge represented by the symbols severally. Symbols can not be known in such a way as to bring their content into profitable consciousness except by precedent experience with like things. It is true that children, especially is it true in some cases, are able to learn and retain symbols in the absence of precedent experience in like categories of knowledge, but it is also well known how valueless for healthy growth are the acquisitions thus made in many instances. The absence of interpreting power is the cause of small profit in school

work in many cases. The mind experiences the symbol when this is the case. Its content is its form only, a lifeless shell without kernel or nourishment, interest in which must be forced. Nature is kind. It is possible through heredity or instinct for growth for the mind to act out of the order of nature's doing and yet live and grow. This kindness of nature is seen in all forms of life, in every kind of change resulting from growth, so strong is impulse. The root of a plant will go out of its direct course for many feet to find moisture. "Moss will grow upon gravestones." The child can learn by the wrong process. Many children do. Lack of ability is assigned as the cause for non-progress many times when a failure to get a start in growth of the right kind by nature's process is the real cause. That a child does not learn satisfactorily and make desired progress by the use of symbols is not evidence of a lack of native ability.

TWO KINDS OF WORK REQUIRED.

Broadly and radically there are two distinct kinds of work required of the school: The one is that of giving the child an opportunity to make the beginnings of an education by experience; that of establishing interpreting nuclei, and for giving direction to doing and to knowledge getting in satisfying impulse; that of beginning the symmetrical structure of mind; the other is that of giving the child an opportunity for adding to (experience in adding to) and continuing education and growth by the use of symbols in getting more knowledge and a broader view of the universality of truth and its relations to life. The first must precede the second; it is a condition precedent to the second. The second may be introduced early while the child is getting experiences, and should be, but must follow these step by step. This is the order followed by the mind of the child before coming to school. The school must not change this order.

The experiences should be varied and numerous and should be immediately followed by symbols representing like kinds of knowledge for giving nourishment and strength to mind started in experience. The broader the experience the more categories there are embraced by it, the broader may be the range of help and growth which the child may get from symbols. The greater the variety of categories the broader will be the foundation for learning from symbols, and the greater the variety of experience within a given category the more deeply will the child understand the experiences, reflections, and conclusions of others as represented by symbols relating to that category. All supplementary work in symbols should be selected for the purpose of broadening the knowledge and enlarging the imaginative and emotional view obtained by experience and of making practical applications of the knowledge obtained by experience. (This suggests that a miscellaneous selection of supplementary reading matter, in the elementary school especially, may be harmful rather than beneficial.)

A RELATIVITY.

The relation of the extent of the two fields of sources of knowledge for the education of the child during his primary school life may be represented (imperfectly, of course,) by a rectangle divided diagonally from the upper left-hand corner to a point near the lower right-hand corner. That portion of the figure below the diagonal represents what is to be learned by experience; that above the line, what may be learned from symbols. At first knowledge comes wholly from experience. The diagonal will never reach the corner toward which it extends, for intelligent man never ceases to learn from experience. The laboratories of the high school, the college, and the university are found below this line. What one learns from travel or by other experience through life is found in the space between this diagonal and the base of the rectangle. The sources of experience increase in number and in value also as experiences are realized, grouped, related, and formulated. The beginning of a realization of the power one has in experience getting is an important step in education.

A DUTY OF THE SCHOOL.

Mind stuff that satisfies impulse to know is furnished by environment first and by symbols second. In environment the child has an interest and will work with it without compulsion. Curiosity, ambition, and enterprise, possessed by all in varying degrees, find here a field that compensates effort. Successes in this field serve to make desire more keen. The same is true of symbols if the necessary taste for inquiry after the knowledge they represent, has been established by experience; this shows the important work and duty of the school. Environment is as varied and as complex as is the state of society which the child represents. That environment, general and local, is the one in which the child will work and by means of which his mind will be built largely, whether it is found in or out of the school. This environment has aroused his soul, has made his mind what it is when at an early age he comes to school, in a large degree.

The schools exist in large part for the purpose of letting the child satisfy impulse by getting, in experiences, properly selected parts of the whole natural and social environment, for the sake of establishing connected memories of the right kind, by means of which the experiences of others which we desire him to know may be interpreted and understood through symbols, and for the purpose also of introducing him to certain selected symbols (course of instruction from books), that he may get a knowledge of the values and purposes of symbols (experience in the use of symbols), and further that he may get a working power in the use of symbols for his pleasure and profit in the furtherance of a better self-building, a richer gift, self, to society.

The child babbles until he learns how to make the words (symbols) that represent what he wants to tell to others. He contributes to soci-

ety what he has found out; he tells others. With his hands he only displaces, breaks, tears, at first. He is said to be destructive. But his acts show only that the impulse to do is great. The doing destroys because of lack of knowledge and skill to properly direct it. There is no more destruction intended when making effort with hand than there is for the destruction of language when he babbles in trying to talk. Doing of the right kind brings knowledge and will bring necessary and valuable skill in representation if continued long enough, as babbling results in speech that is understood. When the child has gained some knowledge, he builds; when he has gained more knowledge, he builds better; when he has gained much knowledge, he builds well, if he is allowed to build, trained to represent with his hands as well as with his voice while getting knowledge. When building he contributes to society, representing what he knows and what he can do, but he builds also a greater and stronger self. This is his contribution to society by the hands. Whether society owes more to the contribution of self by the voice or by the hand it is not necessary to discuss here, even if it were possible to determine the matter.

VALUE OF EARLY ENVIRONMENT.

An experience, as said before, will be had anyway by the forceful nature of child mind and by the nature of environment. Both act, each toward and on the other. The child can not exist except in environment. He can not exist without being affected by that environment and without learning by means of it, or without forming psychic character. The question is, What shall he learn? (The presence of the school asks the question.) What shall be the tendency of the child's self-making? Shall we determine it or shall we let it go undetermined? Conditions of environment will direct it. This may be seen in every child that comes to school. Shall we make these conditions? Shall we direct growth by trying to control the child by authority, force, or by adjusting environment so that the child's activity will direct it by natural impulse? Shall we determine by simple adjustment the tendencies of the child in which he will grow in knowledge and in fixing psychic character? Commissioner Harris says that there comes a time when the child wants to climb over the fence. That simply means that the child seeks contact with new environment; he seeks further experience or new experiences, and the question we are to answer is, What shall we let him find when he has climbed over the fence? What shall we furnish? Or shall we prevent him from climbing over the fence? This is practically what the school has been doing from the time of the first establishment of school. The child has wanted to climb over the fence, but we have prevented him from doing it. We have told him to keep still when he has nothing to keep still with. We must not repress the impulse "to climb over the fence." That is what nature has provided to insure

self-growth. Without this self-growth, self-directed, responsible activity is impossible. There can be only a forced reflection without it. "He has climbed over the fence to play," says the mother or nurse, and orders him back into the yard or nursery which he has explored a score of times—so many times, indeed, that new combinations and hence new acts are impossible for him. This is why he climbed over the fence. He was tired of the old; he wanted something new. We have called this play. It is play only in the sense that it is a delight, it is interesting to the child. It is really work, for it is only movement for the accomplishment of a purpose by native power directed by acquired knowledge; he knows that he must get away to find something new. It is as surely work as is the effort of any planter, any forester, any discoverer, any inventor, and relatively it is as intelligent.

If we know the world as it exists to-day and its categories of influences, good and bad, we have only to see to it that the child, after having climbed the fence, carrying out his impulses, finds those things which by nature will influence him; that will, in causing him to act, establish correct interpreting memories for use in symbol reading, and will at the same time, by this acting, this doing, make for valuable self-building.

AN IMPORTANT CORRELATION.

In gaining the experiences for which I plead for the child, he uses mind and body in correlation, as we have detected not only by a study of the arts of the child, but by a study of the physical structure of his mind apparatus. The first guiding principle to be followed, then, in establishing the primary school is that during the formative period of life nature's law is that of correlating mind and body in the process of knowledge getting and mind building. This is the first distinct, valuable, and far-reaching correlation in education. Now, if we look out on the world, we must see that it has become what it is because of this profound principle of correlation. No other conclusion can be reached. Society was not created as it is; it has been made. Mind was not created as it is; it has been built. "We build the ladder by which we rise" applies to mind as well as to character. Brain and hand have worked parallel in cooperation for the building of self and for the building of society. The effects of hand are seen in the structure of society as much as are the effects of brain.

We have looked to the child to find something the study of which would give us help in the conduct of schools. We look again and recall that the child babbles, the child tears paper and destroys things. We interpret these to mean that the child attempts to express experiences with voice and hand, the one contemporaneous with the other, so far as we are able to determine. Guided in its adjustments by what we have seen, opportunity offers in the primary school to give the first instruction in manual training, training of self through that impulse

that takes environment and changes it, fixes it and uses it for profit and pleasure. Exactly this it is which has helped to make the social world what it is and man what he is. Primitive man did this when he cut the bough of a tree with the sharp edge of a stone. Today it is represented in the Corliss engine that cuts the 2-inch bar of steel which man himself has made with hands and brain cooperating. We must not begin, however, by teaching the child of a Corliss engine; that is too complex; nor need we begin by causing the child, to cut wood with sharp stones; that is not in harmony with present conditions of undeveloped mind and its environment. We must let him begin, however, as the child of the race, primitive man, began, by doing that which he wants to do—adjust some portion of the object world about him for his own use and pleasure. Then we must lead him to do this skilfully and well, economically and profitably. He is the child of the now, and not, as was primitive man, the child of the then. The world is not the same; it has moved on. The child is not the same; he, too, has moved on. Each has moved forward from a beginning by a God-given impulse to be something else. As nearly as man can judge, and as I believe, each has moved forward toward something better. Each has grown by the help of the other, because of the presence and influence of the other.

If the epoch theory of education has any meaning of value to those who make schools and is to be taken as a pointer to methods and sources in any way, to my mind it is that since mind grows and gets knowledge by the same processes that it ever did, and that since primitive man learned and grew from his natural environment and from the social whole of which he was a part, the child today must learn from the natural environment of today and can best be—that is, most easily—moved and influenced by the social whole of which he is a part. The culture of primitive man, then, is not a source of mindstuff with which to educate the child today. Being the child of the now, he is affected by the conditions that are his environment. Much of his environment has been made by the skill of man. These are his teachers, for these are they that affect him. He tries to express himself in the forms that surround him, by the use of the material that is next to him or that he can possess. The process of learning does not change. "The flow of energy" and "rational order" of nature remain unchanged. Environment changes, and that which learns from it or is affected by it changes accordingly. There is no occasion for trying to arouse fictitious interest. The engine is constructed for use of that power only which it registers. The power and the structure are adequate for the work intended. If this is not true, nature has made a mistake, has done some bad work. Shall we try to correct this? Does the history of man show us any way by which the working of nature's laws can be corrected—made to do better work, accomplish different results?

INTEREST IS NOT RESTRICTED TO OBJECTS.

The child's interest is not restricted to the world of objects by means of which he makes his start in feeling, knowing, and doing, but he has perhaps a greater interest in the institutions of the social world of which he forms a part also. The start in knowing and doing is made here, as in the object world, by contact with, experience in, participation in content, and interest in the forms or parts whose construction satisfies him, gives him pleasure, and whose purposes affect him.

BEGINNINGS OF MANUAL TRAINING.

The child has come to school with many memories—memories of present conditions of nature and of social life—in all of which he has an interest. From any of the categories of things that have had to do with the establishment of these memories the school may provide representative and appropriate objects to be formed—made. From among the objects provided within the selected category the child may exercise his choice. This gives ample freedom for self-assertion, yet continues gently the purposive office of the school. It does not repress interest or dampen ardor. It is only a strong element of environment.

If the child, in addition to making choice, will hunt for and find the material, will go after it, bring it, and prepare it, the work will be more valuable. If, in addition to all these, efforts are made for getting materials for other purposes; for the conversation exercise; the reading exercise; for preparing material for more accurate seeing, deeper insight; preparing material already studied for preservation, the work will be profitably correlated and will be more nearly what it ought to be. Every effort the child makes will strengthen him, enlarge his view, unite kindred memories, give intelligence to muscle and health and life vigor to brain tissue and repose to and control, because healthful use, of nerves.

BEGINNINGS OF MECHANIC ARTS.

The mechanic arts are few. The appliances of these arts are almost without number, hence the many trades and parts of trades. The opportunity in the primary school to train in the fundamentals of all the mechanic arts are numerous, practically limitless. The adjustment of a block to a specific place for a specific purpose is training definite and valuable. The folding, creasing, and cutting of a piece of paper, making a definite form of definite size for a definite end is manual training as valuable relatively as that of making a pattern for a cog-wheel or a model for a watch case. Here is the place for this training to begin, because here the child has the greatest interest in this kind of work, and this is the time, because it is when the child's mind (all parts of it) is forming, is making for all life an identity. The child's feet, the muscles of his legs; his fingers, the muscles of his arms; his eyes; his ears, and the end organs of nerves in the dermal covering of

his body are all exercised, trained, refined, cultivated in correlation with the brain in the process of getting knowledge and expressing it. This is the best manual training that can be given to any generation. It is manual training that will result in the greatest good to the race. It is physical character tendency that will be transmitted. Instinct is the inheritance of doing; not of knowing.

Brain and finger tips, brain and eyes, brain and feet, brain and end organs found in the skin, parts of a physical whole, get training in conjunction, get training as a unit for a purpose. The boy goes after his specimen; he climbs or digs for it, carries it to school, prepares it, dissects it, and examines it with eyes and hands. I repeat, this is in part the way the world came to its present estate, and this is the way every child should be taught, or rather should be led to teach himself.

What must be the effect of this exercise for general health? He who would get health by walking must go after something beside health and get it. He whom we would have saw wood for health must be led to do it for so much a cord. This is the law. It can not be broken with impunity. What must be the effect if, during the formative period of life, end organs and nerves remain inactive or act abnormally while the brain is engaged in effort to know by forced or abnormal processes—processes that belong to mature growth?

This work trains for care, for accuracy, for skill, for truth. The effort is to know existing conditions, to find the right thing, to determine correct relations, and to form and adjust accordingly.

IMPORTANT RESULTS SECURED.

Education should develop responsibility and with it a judgment for the adequate comprehension of and a feeling of duty with respect to the same. Then it should develop a will in an individuality that is self-poised, careful, yet courageous in action. Didactic teaching does not accomplish this result; it can not in the nature of mind. Authoritative teaching and memoriter learning do not develop the individual, the self; they do not develop. Learning from authority, *ipse dixit*, by memory through symbols will not develop a man ready in emergency, for there will be lack of experience; strong in action, for habit and acquired power will be wanting; constant in purpose, for self-found knowledge of and a self-ingrained confidence in that which is known to be right and a self-made purpose in its pursuit will not be present to sustain him. These results are accomplished only by self-activity, self-directed, and are most effective when such activity is self-induced. In this principle the kindergarten has reason for existence chiefly. Early education should begin this work in its entirety, yet in the utmost simplicity. This the kindergarten does when it is what it ought to be.

The activities of the primary school should be those that will develop the child along these lines of growth, and results of the work should be estimated by testing for strength and growth in these lines of value,

and not by measurement of quantities of acquisition or of forms of knowledge; not even of knowledge itself.

The earliest education should develop the beginnings in making choice of the correct thing, the truth, the selecting of the one that's wanted, the only one that will do; the deciding, the self-determining, that which satisfies by causing the going for, the doing, the getting, the adjusting. These are the satisfying activities for the child. These give the utmost pleasure and prevent exhaustion by creating energy in accomplishing a result, getting the thing done.

THE WORK OF MANY KINDS.

The work is of many forms and kinds: the adjustment of sticks, the adjustment of tablets of varying forms, the making of forms like these tablets for the making of other forms, the invention of forms; the making of forms of paper of different colors and laying them to represent the invented forms, giving variety and training for accuracy and dexterity.

Representing objects in clay (clay modeling) gives opportunity for training hand and eye and brain (judgment and accuracy). Of this there are three kinds of work; first, forming the object out of the material with naked hands and gradually by the use of tools, simple, improvised for the most part; second, incision; cutting figures into tablets of clay, done chiefly by the use of tools; third, relief; cutting the material of the tablet away and leaving the figure in relief, done chiefly by the use of tools, many of which are improvised. Work in clay, beside affording opportunity for the development of skill in the use of tools for the reduction of environment to use and pleasure, is a means of developing taste and judgment, but especially is valuable in establishing truth of form in connection with a realization of the appearance of form. This kind of work secures most valuable results in many directions.

Form-making of pasteboard requires the projecting of plan, a judgment in the use of material, laying out work, cutting it, fitting it, putting it together. This is all for the development of skill and judgment. This work is the handmaid of geography, of history, of literature. This work involves the exercise or application of arithmetic.

ESPECIAL VALUES OF THIS KIND OF WORK.

The value of construction in connection with getting knowledge by experience is practically twofold. The first value in psychic succession, though not more important than the other, is that it realizes the acquired knowledge in the making of a more secure and a better-poised self. It ingrains or identifies the fact perceived with individualism and makes it a part thereof by exercise of the motor element of or instrumentality in self-making. Its moral effects are scarcely to be overestimated, as it requires purposive cooperation of the entire self in the accomplishment of a definite end; the child accepts responsibility, undertakes a job; he exercises purposive effort; self-restraint is secured

in pleasurable work, requiring patience, continuity, care in the realization of truth in another form. A second value is that it gives opportunity for getting new knowledge with self as the projector or as the creative source by the use of nature's instrumentality in creation (invention). Knowledge is secured by the triple effort of will; one makes the conditions, another observes them, while a third concludes or determines values, and, as a school exercise, a fourth even makes a report of the exercise. A self-confidence is developed under restrictions that involve self-measurement.

This work furnishes a new field for perception; it takes that which the mind has gotten from the concrete and has looked upon in the abstract, aside, apart from its source, and rehabilitates it, to be reexperienced. It is a natural, gradual, profitable process by which mind goes from the concrete to the abstract with self-trust. It affords opportunity for employment of superior talent, and is one means of minimizing the disadvantages of graded learning, and becomes a substitute for promoting talented pupils who are too immature to have the work of a higher grade imposed on them.

When the child represents with pen, pencil, or brush, or by construction, he learns to observe closely and to discriminate values which are involved in correct observation. This kind of work trains his hand and eye to cooperate with judgment and will in truth telling.

When he works with pen, pencil, or brush, or in construction, from specifications or orders, he learns to observe and to test values in symbols, and trains his eyes and interpreting judgment to cooperate with hand and will in obedience; he submits self to the will of authority, physical self and moral self; he can exercise no option.

When he works with pen, pencil, or brush, or in construction, in the representation of his own invention, he trains self in responsibility. This involves truth telling, in which he has had practice. It involves obedience also, not to imposed specifications or orders, but to self-determined conditions, the details of which he must himself make; he has been learning to walk; he begins to walk without help; he goes as he pleases and where he pleases; he is free. The foregoing shows the order of combined hand and sense training in the manual exercises belonging to the experience period of all those categories of knowledge attempted in educational work in which manual training can be involved.

GRAPHIC SYMBOLS. (READING MATTER.)

But the work has not been done for manual training alone, for that is only one of the many coordinate purposes of the school.

We look into the world of which the child is a part to influence it and be influenced by it. We find it full of graphic symbols representing the knowledges, ambitions, successes, and accomplishments of man, the formulated story of man. To the interpretation of these symbols we are to lead the child. We are to see that he gets experience, by means of which he can interpret them. In the varied employments of

primary work we must secure the establishing of broad and sequential lines of experience, and with each experience the graphic symbol (word) representing it must be given. The early part of graphic symbol teaching is an important and delicate duty of the teacher.

VOCABULARY MAKING.

In the establishment of a vocabulary for self-expression it is as important for the influence on self as for the effect on the other that the vocabulary shall represent exactly the impression in mind. For this reason it is essential that in the early effort of the school to fix a vocabulary the experiences should be entirely new to the child. The symbol that stands for what the child has experienced is given him. Thus his speech represents exactly what is in his mind. By this speech the teacher may know the mind of his pupil, for he knows what made it. For a long time it is desirable in fixing the early vocabulary to work with conditions of mind in the child that are thoroughly known by the teacher. If any word gets into the child's mind that does not represent an experience, or is not interpreted by an experience, that word is simply lumber in the way. The relations which the child sees and understands afford excellent opportunity for the teacher to give, furnish, the idiom, the word or combination of words that exactly represent that experience. In this work the teacher must be especially skilful; by this work the child may come into possession of the power to use and the habit of using language correctly, and do it without conscious effort, without studying language objectively. The effort on the part of the teacher should not be to simplify the expression, but should be first to make sure the experience, definite and ample, and then supply, give, the expression.

THE CHILD MAKES KNOWLEDGE AND SEEKS ORAL EXPRESSION.

The child in the formative period of life, especially at its beginning, is not to learn, secure knowledge, by gift, but is to create knowledge by experience, for by this means is he making mind, no matter that this same knowledge has been made time and again before him. This is not the time or the place in the process of education for the economy that symbols afford the race. The child is a creator of knowledge. All discoverers create knowledge; all inventors create knowledge. The school, by selecting the environment, prevents the child from wasting energy in getting experience, knowledge, that will not be valuable to him as interpreter. In this sense is the school an economic arrangement. The race has had to learn and to reject or unlearn. It has hypothecated, tested, rejected. The school economizes in the early work of the child, preventing him from doing that which will lead him to wrong results, results that are not the most profitable. The symbols that the child gets for the representation of what he himself has created make a profound impression on him, inferior only to that of the creation of the

knowledge. In this fact lies the supreme importance of correct speech on the part of the teacher. The simultaneous birth of symbol and knowledge has almost as strong an effect for the retention of the one as of the other. The symbol identifies the knowledge, and thus is a part of it. Now, in all the language given by the teacher while the process of discovering, so interesting to the child, is going on, the opportunity to teach correct idiom can not be neglected except at great loss to the child. The child who has made his way through experiences varied enough and repeated times enough for the establishing of interpreting nuclei of text corresponding to his advancement at any given period of his course of study may have power and ought to have power and readiness to express himself in correct idiom in oral speech, yet he need not be set to learn speech purposively and objectively. Language learning as such is not required. If the correct idiom is given at the birth of knowledge, an economical, practical adjunct (handle) (vehicle) of the same, the accomplishment of this end is an easy task. Especially is this true of the child who speaks the English language, a language of few forms.

WRITTEN EXPRESSION.

Closely related to oral expression is written expression by the very nature of the child. He has only to correlate, in his impulse to express self, his effort with voice and hand; each makes its own form according to its own nature. They mean the same. As conversation proceeds between teacher and pupil, natural, unconstrained, but correct, because of the unaffected directing of the teacher, the results appear to the eye of the child on the blackboard in large, correct, simple forms (script). The child reads his own words, representing knowledge that he himself has created. His interest in these forms is great, perhaps not any less so and maybe greater than it was in the objects or processes by association with which he created the knowledge. The forms stamp themselves vividly on his mind, to realize which as a product of himself he makes them on the board with chalk, or on paper with pencil, after the forms made by the teacher have been removed. The action of eye and hand has made the form a part of the knowledge. If the oral expression is the practical adjunct of the created knowledge, the written form, the script form, is also practically related to it. The three processes, making knowledge, expressing it orally, expressing it in script, are carried on simultaneously as nearly as three processes by the same person can be simultaneous. This has proved to be most interesting employment for children. Experience shows, and the evidence of a hundred-fifty teachers for many years testifies, that the correct use of language in oral speech, the correct use of written forms, including spelling, and the ready and intelligent reading of text found in categories of knowledge represented by the knowledge making of the children, run parallel in the primary school; they should do so through the school life of English speaking pupils. The reading is natural in pitch, emphasis, and inflection without formal teaching. Penmanship good enough is

acquired almost at once, and correct spelling, though requiring somewhat more attention than penmanship (a minimum of isolation) is assured. In the early work the relation of form in penmanship and of forms of words to expression, the helper in creatorship, is as that of the tle drudgery of home or self life to the whole of social life. I have called it kitchen work. The high value of kitchen work in the home can not be denied; should all home life be given to this?

The speaking of one's mother tongue always represents the symbols heard and seen during the process of knowledge making, no matter what changes may take place in the vocabulary because of acquired knowledge through symbols. The home comes in for a large share of the responsibility for the poor English spoken by the American people; but the school is also responsible for a large share of it, perhaps the most of it. Blame attaches to the school first, because it has too much neglected the process of knowledge making in its activities, a means by which alone speech should be taught during the formative period, and, second, because in attempting to correct improper speech it has employed a method involving a use of symbols, a study of expression, a didactic method. The correct method is to cause the child to create knowledge for which he will seek expression; then he should get correct expression from the teacher if he needs it. The ordinary way is the employment of a psychic force of less power than that by which the error we would eradicate came into being, the memory of which is in the way.

AN IMPORTANT OPPORTUNITY.

Another point of deepest interest and of profound importance should be given here, although it will be brought up in other connections. The giving of language for expression at the time of the creation of knowledge by the demand of the child is the first didactic teaching he has. This is the first learning from authority—the oral representation of what he has himself found out or done. Being that which he wants, representing that which he has done, the symbol of his own product, what must be his interest in it and what his attitude toward its source? The teacher becomes an interesting, a new source of knowledge, and thus begins to assume the position which the true teacher must have. This place, as a reliable and lovable source of knowledge getting, is won by satisfying a desire, intellectual and moral, in that it has supplied a truth which was sought or wanted. The teacher now occupies a place of influence (psychic) which can never be had by authority. This is the first opportunity that has offered to this most important step. This is the opportunity.

INTEREST IN CORRECT FORM.

The child creates the knowledge. He is given the oral symbols representing it. He creates his own sentences expressing his knowledge. These are reproduced on the board. These are the garb in which his

eye first sees his own creation. It is the symbol of what he has said. Its forms interest him. He is interested in making them himself, as we have seen he is in making other things with his hands of clay, paper, sticks; no doubt more so. He is interested enough to make them right. The teacher need only to suggest that there is error; if it be true, the child has interest to correct it; he corrects it because he wants to do it, not because he is told to do it. This is only a valuable kind of play. It is a change from his manual training, but it is related to the same things or processes; the psychic self doing it is the same. The butterfly or other object of which he talks and writes is that which he has already tried to paint or to represent by folding and cutting paper. The arithmetical statement which he makes and writes is verified by a diagram on the board or by folding and cutting paper, or by some other means. The form is ever subordinate, never incidental however. Supreme interest is in content, but this very interest is the assurance of care in the form in which the creator's creation shall appear. This interest, if used cautiously by the teacher, takes care of the penmanship and the spelling. A minimum of isolation with individuals only is found necessary to secure satisfactory results.

If one-half the effort were given in our schools for securing the correct use of language that the Germans or French must give in teaching their children to get expression that means anything which can be understood by others, and if this care were given at the proper time in school life, the creative time, we should soon be a nation of correct speakers. The ease with which expression in English that can be understood is acquired because of the absence of forms that express relations of thought gives rise to carelessness in speech and prevents the growth of unfriendliness to incorrect or inelegant English. In English it is especially easy to establish correct and elegant speech when speech is first learned, because relations largely lie in the logic of content and are learned as a part of it, or they are expressed not by forms but by words that are the subordinate part of content getting, as shown above. There should be no failure to secure correct, fluent, and ready speech in our schools as broad in vocabulary as is the field of knowledge represented by the selected things and processes by means of which the children learn and grow.

THE VALUE OF SYMBOLS.

The child's latent powers and therefore his possibilities for learning and doing, in the sense that he represents the race, is heir to all the past, are limitless, or are limited only by that knowledge and power that are necessary to subjugate and use the world for the promotion of the growth and welfare of self—that is, society. It is only by combined power or social force that this subjugating is possible. As a social being, man is strong, for, by his power to get knowledge through symbols, he has today the accumulated force of all the ages. Little wonder that society moves rapidly. Symbols are the instrumentalities for

uniting the social forces of the people of the earth, of all times. With the natural world and with the social world the child is to be made acquainted; with the natural world, for it is that from which man, society, started, and which he must know to know what society is, how it has become; with society, for of this he is a part, and this he must know that he may realize himself as a social being and thus contribute himself to the general purpose of the social whole. He is to be made to realize not only the present conditions but is also to be made acquainted with the tendencies of each and to be made to know the moving forces and as far as possible to understand them. The interpreting forces by which these symbols are available come through experience alone. One of the chief purposes of the school as an instrumentality in promoting the progress of man is to give the child opportunity to establish memories by experiences in properly selected activities for the translation of the various categories of natural phenomena and social phenomena represented by symbols. This is the work of the primary school.

It has long been my opinion that it is requisite for the teacher to know what is in the child's mind when word and idiom are given, that he may be sure that there is no confusion, no attempt to fit form and content that ought not to go together. For this reason the child should begin his school work on material that is entirely new to him. This will give opportunity to work with knowledge that the child makes himself for which he must get symbols. In the use of this new knowledge the child may use many words already in his spoken vocabulary the correct use of which will be acquired in the sentence making that will accompany as a part of the work. Learning the printed or written forms of the spoken vocabulary that the child brings to school is not interesting to him as a work apart from other work. These symbols have lost their interest and nascent power, although they are valuable as instruments. This fact accounts for the unprofitable character of much of the language work of schools. The expression of the newly-discovered idea is fraught with so much interest that all words used in doing it are quickly learned by sight. Much, perhaps most, of the knowledge already acquired will come into use in the seeking of the new, and will be reexperienced with it, while about all of the previously acquired vocabulary will be of use, serving always as a help except where errors have to be corrected, while interest is so great in the representation of the new-found knowledge that errors may be easily corrected.

Interest is in discovery, creation of knowledge and in communicating it. This is inborn. These are the cause (discovery) and the instrument (representation) that have built society, made it what it is, moved the world. Interest can not be implanted any more than power to grow can be given to the seed. It can, however, be given that which it feeds on and thus may be made to grow, and thus also may the right direction of growth be secured to it. This native impulse is to be directed and at the same time the impulse to express must be supplied with the correct material with which to realize fully itself in social life.

This is the supreme time to teach language. This opportunity can be given only by the use of material new to the child, for in creation will interest obtain to its fullest capacity. To attempt to weld iron when it is overheated or not heated enough will prove a failure. There is a supreme moment in which to act, which the artisan must know, to prevent waste of energy and other evils that are greater perhaps. Illustrations showing what is here meant might be drawn from the arts without number. Corresponding interest is secured in the use of symbols as mind stuff for education when these are used at the right time and under proper conditions of preparation for their use as such. But interest in the right symbol and persistent effort to use it can never be secured by the use of symbols, except when they are supplementary to and interpreted by experiences which seek more light and broader knowledge. Correct mother-tongue learning belongs to the period of knowledge-making in education, in child life. Studying forms of speech in isolation to secure a correct and fluent use of mother tongue has proved an unprofitable employment.

A VALUABLE KIND OF MATERIAL.

Material out of which natural science has grown has been taken for use in all grades of school as mind stuff, in giving opportunity for discovering knowledge, as well as for giving opportunity for the exercise of body and mind in correlation in getting knowledge. This material has been selected because:

(1) It is always of interest to the child.

The child has an interest in any material thing he can handle, examine, and talk about, and try to make, but his interest soon dies out unless there is something new to lead him on, something new to be discovered in the material which he handles. This is the reason why the top, the ball, the doll, or other plaything is not the proper material to start with. He soon tires of this, because he has found out already all that in his stage of growth will interest him; no new thing is found; no new thing can be done with the object. Therefore it is not profitable or desirable to use such objects for teaching purposes. Science material presents never-ending opportunities for discovery of the new to the child; interest never tires in dealing with this material, because it is compensated by new knowledge in every effort; it is gratified, encouraged, though never satisfied.

(2) It affords opportunity for knowledge-making in categories related to and representing large bodies of knowledge found in symbols (books, maps, charts, etc., formulated, recorded knowledge).

The work with science materials in the elementary schools should be for the purpose of giving the child experience in the categories of knowledge that represent the great movements or achievements in scientific knowledge, that knowledge that has had so much to do with making the social world what it is and has stamped upon it its own character. Indiscriminate science teaching is to be deprecated. Keys

to broad lines of knowledge are what must be given the child by the science teaching of the elementary school rather than systemized bodies of knowledge. Interest in phenomena that are keys is as great as in anything. What is meant by a key or interpreting nucleus, to be secured by experience, object teaching, experiment, may be illustrated by the subject—vapor. By the use of the tea kettle, a spirit lamp, and a pitcher of ice, the child may make knowledge by means of which he will understand all the various phenomena of vapor surrounding him and affecting his everyday life—the storm, the frost, the hail, the dew, etc. Then, if he be led to the roadside or to a newly plowed field, or to a piece of ground in the school yard prepared to illustrate the phenomena, that he may see how running water cuts away the soil and carries it off, and that in doing this it always cuts backwards, he may see how the mountains are chiseled. Then if he is allowed to examine a bucket of water taken from the river when it is swollen, and after the water has become clear, decide the cause of this, he may know how deltas are made; how hills and valleys become; how plant life is distributed, and in turn how animal life is made possible; and having an understanding of these, he may easily be led to understand a mass of literature on these interesting phenomena, which without this foundation in experience would be to him largely a sealed book, though he were led, driven, and made to pronounce in reading or even to commit to memory the words in which it is found. The child, rightly prepared in experience, when reading, knows, because he has made the knowledge by which and with which he learns it when he sees the symbols; what he reads is his own, because he has added it to that which was his by discovery. The so-called steam rising from the sidewalk in the morning or after a rain is caused by the power of the heat of the sun, which bursts the particles of water as the heat of the fire pops the kernels of corn, and because these particles are so small, they rise. The child knows this, and thinks accordingly when he sees the phenomena. He reads from the book which he takes from the desk in front of him, "We are surrounded by the beauty and bounty of the sea." He understands what he reads and is deeply interested in it as a statement of truth, because he knows exactly the processes of nature wherein the truth lies; these processes he images as he reads, by the memories established by doing and seeing. Reading, to him, is at once easy, pleasurable, and enriching.

The establishing of keys, interpreting nuclei, for unlocking, for interpreting, the world of things surrounding and affecting the child, is a logical correlation of a study of these things, whether such study be a limited or an extended one, as it seems to me. The selection of keys to be taught as natural science work in the primary schools is not an easy matter, except to him who has had broad experience in the study of natural science as well as in teaching. Much help has been secured in deciding upon such material for our schools from scientific men of

Washington whose children are pupils in the schools. The schools of Washington owe no small debt of gratitude to gentlemen and ladies engaged in the prosecution of scientific inquiry in our midst.

(3) It trains for scientific method for use in the work of getting knowledge from symbols.

Natural science material is used for the purpose of training or for growth in the scientific method of study and for establishing and fostering psychic impulse by experience for scientific truths and scientific application of truth.

Materials, phenomena for establishing interpreting nuclei for the understanding of cause, movement, change, result, are used. Mind and hand are used in correlation for cooperative development.

The same character of inquiry, like power to see cause and effect, is required in the intelligent study of the social world, only it is on a higher plane of intellectual seeing, a higher plane in the sense that it is more difficult, less tangible than that which the child gets in his nature study, for it must be remembered that only the more easily acquired units of natural phenomena are experienced in a course given to all for interpreting uses in education in the formative period. Those pupils who elect the science course in the higher grades get units of phenomena that are of a grade as difficult to understand as the units of social phenomena are. The uses, values, and tendencies of institutions are understood by the kind of seeing and strength of seeing that make the successful scientist. We do not try to make scientists in either elementary or secondary schools. Causes and effects are seen in nature phenomena, such as are given to the child, in short intervals of time. The phenomena to be given to children occur in daily or yearly cycles, and appear in tangible form to the physically working parts of the child's mind, eye, ear, skin, and muscle, while the phenomena that show social movements in the history of the world appear in cycles so great that they must be secured by the use of symbols.

(4) It affords opportunity for purposive, unified work.

One of the desirable and valuable results of school work is the power to accomplish "a job," the business or habit of "taking hold," continuing by a plan for a purpose, completing, getting done and presenting results and making application, using. The units of objective work offered in the use of science material which are easily selected, easily obtained, and are always of interest are particularly well adapted to securing this most essential kind of training. Power that is valuable comes through knowledge, it is true, but only through the use of it. It must be wrought into self by self-action in its use directed by self. In the use of knowledge the soul realizes itself, comes to its fuller, more perfect self, and thus learns to guide self. Knowledge getting and knowledge using are necessarily coordinate processes in school life. The least work that should be required after knowledge has been obtained is that of formulating it properly in speech and putting it in

written form. Knowledge from symbols can be realized for self-growth only as experience to interpret and understand them has been made a conscious possession in a workable sense.

(5) It acquaints the child with common knowledge and common speech in the possession of intelligent men and women of the day.

The common knowledge possessed by intelligent men and women of the day and the phraseology expressing it should be secured by comparison of phenomena, for purposes of concluding and deciding, from which must proceed a knowledge of the general characteristics of classification and the terms used by educated people. Though many of these are disappearing as knowledge of the unity of all science progresses, yet it is desirable that such distinctions as vertebrates and nonvertebrates, as carnivorous and herbivorous be understood by the very beginners in social life if they are to develop into intelligent, broad, and useful members of the same.

It is no purpose of science teaching in the schools to secure for the child extended knowledge in scientific subjects. The elementary school is not the place for the teaching of science as such; therefore extended technical classification is not intended and not attempted. Science taught as an end in the formative period will defeat the purpose of the work. Such classifications and their consequent terms as are in the common possession of intelligent persons and are a part of the newspaper literature of the day are desirable and are given. It is not intended to make experts in any line of scientific study. A variety of work is given. Among the advantages of variety is that it affords opportunity for choice, and thus satisfies most, if not all, according to natural desire; it gives more choice for individual election.

Some of the material used is taken to the school by the teacher; much of it is taken there by the children; much of it is found in the National Museum, the Botanic Gardens, the Zoological Park, the Smithsonian Institution, and the Agricultural Department; the greatest share of it is found in the field. To all these places the children are taken by the teachers in companies of proper size to insure profitable work.

This work is carried on appropriately in the cooking classes, which all the girls of the seventh and eighth grades attend, and also in the shops and manual-training schools, which all the boys of the seventh and eighth grades attend.

The science teaching culminates in the grammar school by a study of the geology of the District of Columbia, which is learned by field work almost entirely. Excellent opportunity for this study is found in the many railroad cuts on lines of suburban, electric, and steam-car roads leading from the city, and in the grading that has been done for the extension and growth of the city.

The work is provided for in the high schools by well-equipped laboratories for biological, botanical, zoological, physical, and chemical study. The theory on which all is carried on is that the beginning of a new subject must be by experience—examination of phenomena.

The early work with science material, because of the immaturity of the child, should be of the kind that does not require too much refinement of seeing, hearing, and doing. He learns the parts and the uses of the parts. He represents these in large drawings on the blackboard or on paper. He seeks to know the forms of parts and thus learns to classify parts in general. He learns colors—having much experience in working with correct colors—that the proper memories may be established, or proper color centers, caused. In painting he represents in work that does not require the closest, most careful manipulation of brush, and by use of the muscles of the arm rather than those of the fingers. His writing on the blackboard, of which he does a great deal, is done by the whole-arm movement, and his writing on unruled paper at his seat is done largely by a corresponding movement. Close seeing and refinement in doing are not a requisite to correct work in this early science teaching. Careful seeing is required, however, and correctness in speech is emphasized, for correct speech is as easily acquired as that which is incorrect, as before stated.

Once again I say, it is not for a knowledge of botany, zoology, or any other of the sciences that we teach these subjects in the school, though a great deal of knowledge, and much systemized knowledge, and knowledge properly related to the vital interests of the child will result. In the formative period we are concerned about determining the attitude of the mind of the child toward knowledge in general and toward effort in getting knowledge, and we are especially solicitous that by the same activities that place him in the proper attitude toward study he may build mind, make power, establish memories that shall result from the coordinated effort of all instrumentalities that can be made to contribute to this purpose; thus may he thoroughly unify himself in building himself. No other study compares in value with that of the natural sciences for doing this, when a liberal amount of field work is supplemented by laboratory work, and when both of these are enriched by library work, which sequence and correlation are found to be easily secured.

PHYSIOLOGY AND HYGIENE.

Physiology is taught in the schools by special authority and direction of Congress. It is taught first from specimens as far as it is possible to teach it, as other subjects are. The knowledge thus gained is enlarged and applied by oral work given by the teacher and by the use of books supplied for this purpose. Our aim in giving this work is first to make it educative in the true sense as we understand that term as applied to all other subjects taught, but in connection therewith we give especial emphasis to the hygienic application of it. Children come to understand by observation and careful examination and repeated experiment the delicate nature of tissue and nerve structure, and in doing this learn also by what means these are impaired or injured. At this moment or stage in mind growth or psychic condition the suggestions of teacher or those read from the book must have a profound

influence on the minds of the learners for the control of action in both present and later life. The wisdom of this work properly done can not be controverted. It is one of the moral forces of the school and is fostered as such.

THE STRUCTURE OF SOCIETY.

The school, while studying the natural world as an integral part of its work only, an interesting part, must build itself in the social world as a part of it and out of the materials of the social world. It has strong hold on the social world by fact of the source whence the child comes to school. It must not let go. It must not lose its relation to the social whole that it has in the very possession of the children representing the social whole. Each child brings with him experiences that are rich and valuable. These must be extended, grouped, and identified. The child must be made to realize to a greater or less degree, according to his age and power, what each is in the social structure. What has been begun in life under natural processes must be continued by processes equally natural, equally easy, equally efficient, as far as it is possible to determine them. Let the child continue as he has begun. Let him be directed, not by command of the teacher, not by rules prescribed for him, but by determining the forces, the inducements that will lead him, and the possibilities that will entice him. The child does not realize that any determining is taking place. He is unconscious of any set influence.

KNOWLEDGES SHOULD BE GROUPED.

The memories, experiences, of the child are to be marshaled into groups, categories, for future use as interpreters in symbol reading. To do this we need to determine what the groups shall be or what the groups are. This predetermining is essential to profitable results and a symmetrical product. This is a foreseeing and a part of the planning. There must be no uncertain hit-or-miss work done. We find the economical side of life represented by innumerable appliances and instrumentalities for the carrying on of business in all its varied forms. This is the busy world which has attracted the child and has engaged a large percentage of the mind of the parent which has been influencing the child. People live and do business. They plant and harvest and make; they buy and sell; they communicate with one another; they transport products; they travel. The busy world. In this part of social life man has deep interest, perhaps first interest—the machinery of common life. There are numerous instrumentalities for doing these things which the child must understand, or being in the way sometime he will get hurt, or having necessity sometime, a knowledge of their purposes and how to use them will be valuable. These facts give him deep interest in them. His interest is the reflex of the home in most of its economic phases. This department of social life represents the activities of the child that were discovered in his tearing and replacing, adjustment, when an infant. It was called destruction (miscalled).

This department involves the use of mathematics and demands its consideration as a specialty, for in business, number must be known, quantity must be determined, and values must be estimated and fixed in symbols for reference and study. As knowledge of the uses and values of the things, instruments of the busy life which the child is led to understand as home conveniences, grows he finds that he and the community in which he lives are connected with other people by these instrumentalities. This gives rise to the desire and need of knowing about the other people, where they are, what they do, how they live. This is geography. The child has interest here, too, for do not the letters go to and come from friends that live elsewhere? Are not articles of interest found elsewhere—made somewhere else? Where is it? What are the people called?

Now, if we pick up some of the lines of activities that we are to emphasize in our work, we find expression of two kinds, that of the voice and that of the hand. In these the child must be educated in such a way as to be trained to definite ends. He must be made efficient, skilful in the use of these two instrumentalities for the expression of himself, as means by which to contribute himself to the social whole, and particularly as means by the understanding of which he can by the short cut get benefit from the culture of the world. The first of these two is expressed more often by the term language or grammar. The second we have called manual training. These two, with geography and number, are so connected with the everyday life of man and his financial and social interests that we make these the first group. Looking farther, more deeply, we find the libraries and art depositories, the collections of symbols, which give us a knowledge of what man has done—what has been accomplished by the social whole. This gives us the department of history, which is to be unfolded to the child in such a way that he will work easily and profitably therein. His experiences with persons and events of his school, neighborhood, and city will furnish the right start if these are collected, grouped, and studied aright. He knows persons or can know them. He knows or can be made to know by finding out for himself what they are doing. He knows or can be made to find out why they do what they do, and he can find out the results of the doing. He knows or can be made to know by self-effort the instrumentalities employed. He can be made to realize the effects of men's actions on society. Side by side with history, parallel seemingly in value and coordinate in dignity, is art, of which we see more than one form. We find music and literature, and the graphic arts, drawing, painting, sculpture, and architecture. Some of these are correlated with the economic arts.

The graphic arts, drawing, painting, architecture, and sculpture seem to have sprung from the work of the trained hand for the representation of a higher grouping and broader view of truth and imaginative combinations of the same. These have been worked out with hand and eye. Then we find the groups music and literature, that represent the broader views of truth in combinations under the control of imagination and emotion. These are expressed in arbitrary symbols that

seem to represent more particularly the voice. If we were to group all the foregoing from the standpoint of the child and his natural endowments, we should make three groups; one proceeding from the voice, another proceeding from the hand, and a third proceeding from the special senses and creative power. Then we should have grammar, history, music, and literature in the first group, manual training or the manual arts, drawing, painting, sculpture, architecture in the second group, and nature, geography, and arithmetic in the third group.

But in addition to the foregoing there are institutions which the child must be led to see. The home, the school, government and other institutions. His experiences in these are rich. These he may be easily led to differentiate and understand as belonging to definite categories. The interlocking of the different categories of knowledge does not prevent a rational understanding of the general grouping of things and activities constituting the categories respectively. The beginning of the analysis of society is in the primary school at its very commencement. Each step adds interest and contributes to the good government of the school and to the eagerness with which the child will seek further information.

Sequential experiences in social life are to be had by the conditions of the school in part and in part by observations in social life outside the schoolroom. We have to consider the economic institutions and appliances of society, as street car lines, railroads, river navigation, canals, the means of lighting a city, means of communication, telegraph, telephone, post-office, water supply, reservoir, conduits, water plugs, and many other instrumentalities affecting the child every day. The beginnings of the study of local government may be made early: the policeman; who appoints him; who pays him; what does he do. Government of the school, from the highest officer to the teacher, may be realized, understood, talked about; other institutional life—churches, Sunday schools, social societies, societies for securing definite ends formed in schools. Children cooperate in collecting material for purposes above cited. The child's accumulated memories are used in connection with the new ones established, and his knowledge is marshaled into categories. About these he talks and writes, and the material appliances connected with them he represents with his pencil, with his brush, or makes in the manual training part of his work in satisfying his impulse to do. The social world is studied more from accumulated memories than is the natural world at this time, but the accumulated memories are realized over again by comparison and association with the new memories that are established in the school for that purpose. Thus the whole becomes organized, to a large extent, and real. Symbol learning for representation of these is as interesting as that of any. This work requires, as does that of nature learning, that the child must go from the schoolroom to get many of his experiences. The duty of taking children to the telegraph exchange, to the post-office, explaining the uses of collection mail boxes, the uses

and values of postmen; the duty of taking children to termini of car lines that they may learn why they are thus located, and making numberless trips for other purposes from the schoolroom can not be neglected if the child is to have the proper means of growth given to him.

VARIETY OF EXPERIENCES PROFITABLE AND HELPFUL.

As impressions are made and knowledge becomes by the action of mind and body, brain grows into activity in the locality representing the category of bodily activities, producing impressions, feelings. The brain grows in such a way as to corrugate the outer surface of the cortex, extending at the same time thread-like or nerve-like growths within or beneath the cortex. These filaments connect the different categories of nerves that sense like knowledges. For instance, the end organs in dermal extremities feel the idea, smooth, then by cooperation the eye comes to sense the same idea.

The number of filaments connected with any one memory is as the number of categories of activities that have been brought into cooperation in using this memory. The number and variety of memories established depends on the number and variety of experiences had. The number of nerve connections representing these memories depends on the variety of means by which the memories respectively have been reproduced and used—that is, learned over again, reestablished by other categories of bodily activities. The complexity of nerve connections within the cortex is determined by the number and variety of memories established by means of experience and the number of categories of activities by which each has been sensed. Experience is the establishing of a memory by correlation of mind and body.

THE SCHOOL CAN CONTROL EXPERIENCES.

The child is born into a very complex world. His experiences are very complex, almost to the extent of being numberless. His mind has taken direction largely according to these experiences. The usable power that the child has for learning when he comes to school represents the experiences he has had and the manner in which he has gained them. These experiences have given him his tendencies, his likes and dislikes, his preferences, to a large degree. They show where he has been, what he has done, what has been said to him, what he has been made to believe. They do not show what he should be given, nor what the child-tendency is, necessarily. What a child likes to eat does not show what he ought to be fed. We must find outside of the child's tendencies what ought to be done for him, though we may find from the preferences how the work may be done. These experiences are of the object world, natural objects and culture objects; are of doings—doings of nature, as night and day, and doings of the social world, movements, happenings in society. He has had experiences of emotion, anger, love. He has had experiences of imaging, but the experiences that have made the most impression on his mind physically are those

that have come from contact with and association in things and doings of things, or doings by means of things, in the natural world and in society. The school can do no more, or little more, quantitatively than has already been done relatively according to the age of the child. What it can do is to direct the experiences. It can select for environment, natural and social, the conditions that will give experiences that will lead to the interpretation of the natural world and to an understanding of the social whole. It can cause experiences that are less heterogeneous, experiences correlated for purposive interpreting of natural and social life. It can marshal the experiences and natural impulses for purposive and definite ends. This the school can do by understanding the categories of knowledge and the tendencies and possibilities of the human soul as learned by the study of society, that which has affected the child more than anything else, and by a study of the natural world, that out of which and by means of which society has grown.

A GENERAL VIEW.

Where sectors of various sizes diverge is found the mind of the child, an almost infinite, complex, embryonic possibility. The sectors of the circle represent the knowledges of the world, and therefore the possibilities of the child. The word infinite is used in the foregoing because the arcs connecting the radii are beyond the view of mortals. In each sector man has found out much. He has found it out by self effort. All that has been found out is recorded in symbols. These can be understood by the child only by those processes by which the knowledge they represent was obtained—self action self-directed. To be able to avail himself of this formulated knowledge the child must himself experience knowledge in each sector until he has acquired strength to understand that which others have experienced and formulated. The child may eat of the food which he prepares himself to take and to digest. If he makes of himself no more than a child he must forever feed on the food of babes. If he makes of himself a giant he may feed on the food of giants. It depends on what he does for himself in any and all of these sectors, and what he does in any or all of these sectors depends on what the school furnishes him to do and not on what anybody may tell him or try to give him.

LITERATURE.

In the foregoing I have tried to show the value and necessity of experience in the beginnings of all categories of education. Books, however, are to be used from the beginning—first, as representing that which the child has experienced to cause him to fully realize the exact purpose and value of symbols, and, second, as a source from which new infor-

mation is obtained to add to and enrich the experience and make applications of it. The second step is more difficult than the first, but nevertheless easy, because what it contains in the early parts of it closely relates to that which the child has experienced.

THE TEACHER A SOURCE OF INFORMATION.

In all the work of the child the teacher is an ever-present source of information. A large share of the young child's school getting must be from the teacher. We do not hesitate to show the boy how to bait his hook when we take him fishing for the first time or to show the girl how to thread her needle when she begins the work of sewing. Economy demands that we do this. This is only exercising the function of the school to supply environment, although in the cases cited it is furnished after desire has been made manifest. To show the child in any case like the two named above and not to allow him to realize his knowledge in self-building, by doing, doing till he does well, is bad teaching.

The child is not to invent, discover, make, all the knowledge that he gets, but must make that by which he interprets, because he can not realize what others have done by any other means. Then he must make, do, enough to give healthy growth to and the right direction to psychic forces in the making of an identity. In doing this he gets but a small part of what he is to know, yet by this all the rest can be made his in full realization. The teacher must give him much in every line of acquisition if he would fill the place of the true teacher aright, because he stands for the entire social growth at the moment he gives to the child. What comes from him is more easily and more thoroughly realized by the child than that which he may get from the printed symbol, because it comes to him more as the effect of environment than as the translation of a symbol although it is symbol. It is the intermediate step between that of experience and that of reception through formal symbols.

But what confidence this kind of giving engenders! It is easy for the school to get into this relation with the learner by its offices in furnishing the means, opportunity, for knowledge making and by becoming a part of such opportunity in completing or helping to complete the act of knowing when the symbol is given to satisfy the whole psychic impulse of the child for knowing and doing, expressing.

In all the manual arts the teacher is the environment, "he sets the pattern," he shows how; he shows the way to the book or other source at the time it is wanted. The way he does this determines his value as a teacher. The child wants to know, is looking for the best way; he is seeking for the what and looking for the how. The what he may find without the teacher in opportunity furnished by the school, though suggestion here and there will prevent mistakes sometimes. The how must be found in the teacher or somewhere at the teacher's direction, books. Little less a helper is the teacher in teaching literature if he knows how to be such, knows where to send the child. The same is

true of teaching nature, mathematics, history, art, and institutional life in all its phases. It is not true that "the child should never be told that which he can find out for himself." He should not be told nor be made to try to learn from symbols that for the knowing of which he has not established interpreting concepts by experience.

While the child is getting the experiences, establishing these interpreting nuclei, the teacher, however, must not make the mistake of thinking that help can be given by the use of symbols, by didactic work, for by this means he will prevent the growth of that confidence in the teacher as authority which is necessary for the proper influence in the part of character building which comes directly from authoritative teaching, instruction, or suggestion. He must not attempt to substitute his own experience for that which the child must get. In this fact lies the supreme necessity for a study of the child that the teacher may know what to do. For the child to begin school life by learning symbols has proved to be in the main a barren work. Indeed, the greatest mistake of the schools has been that of attempting to accomplish results by the use of symbols in the absence of the needed interpreting power which is secured only by experience. The teacher must know when the child may use the book with profit. We do not hesitate to declare that the mechanic whom we employ to examine a machine that is to be mended or improved should know what the trouble is when he looks at it and before he attempts the change. We expect the physician or surgeon to know what the trouble is before he begins the work of prescribing or cutting or adjusting. Because the teacher has been unable to detect the cause of trouble when trying to change conditions, make the child do better work, has been the cause of sending from school many children, or for their withdrawal by their parents or, still worse, for truancy of children and ultimate hatred of the school and of learning. To know the child at every step of his progress is as important as it is to know that which we would teach him. The knowledge of what books he has studied, what grades he has been through, or what texts he has recited is not enough. We are to know what they have done for him, in what state of growth they have left him; there may be a case of wrong growth or abnormal growth. The teacher must know or he can not help the child. The importance for child study of this nature as a part of the work of teaching by use of books can not be overestimated; it is too much neglected.

THE CHILD IMAGES KNOWLEDGE.

We observe that in his work with his hands the child is not satisfied to represent that which he sees, but is disposed to make other forms, other combinations. He invents. His inventions are based on and formed out of the images of experiences which he calls up for use. He images his experience, then he invents by use of these images new forms, new ideas, and creates new knowledge. A less tangible but a higher kind of invention is imagination proceeding from invention, but in giving expression to imagination the child uses the images of his experi-

ence; imagination is the process of constructing from images. We see from this the necessity and value of broad experience and of experience that is truthful and that has in it intrinsic merit to insure a profitable exercise of productive imagination. The inventions of the child are to be encouraged, but only to the extent that the fund of experience is large enough to insure profitable imaging, rational and healthy combinations.

Presumably the images of all experiences are foundations for imaginings, as is shown by their expression. The imaginings thus represent in part the possession of the soul as well as the value of the effort of the soul and to some extent its possibilities, and are therefore valuable as indices of the progress and tendency of growth. I have believed that the child's experiences in school should be rich in variety and rich in number representing varieties severally, first for physical results, as shown elsewhere, and, second, that the images he may form may have many possibilities of combination because of the number and character of his stored memories. But I have felt that it is of first importance that all of these shall be distinct and truthful.

I have therefore insisted that in the early years the opportunity to make images shall not be given the child except of definite experiences, of the truthfulness of which the teacher, having led to these experiences and knowing them, can thus judge definitely. I therefore believe that fairy tales, folklore, and much of story is not desirable mind stuff for young children. Some of this may be made profitable, and is desirable when given after experiences have been had by which it may be interpreted when it is given for elaboration or further application. Truthfulness as opposed to error is the first requisite of language as representative. To insure truthfulness in teaching language the teacher must know what is in the child's mind. This can not be done by the introduction of folklore, fable, and fairy tale at an early stage in mind growth. Fairy tale and folklore are not more interesting to the child than are the facts of nature which surround and affect him without number. No fairy tale is so interesting, I believe, to the child as the fact of nature, especially which he has discovered himself, the knowledge of which he has himself made by his own act or acts. This is psychic law. A fairy tale founded on and enriching a fact that the child has discovered may be of great interest to him and may be given him with much profit, but giving the fairy tale before the discovery of the fact is a reversal of nature's order of teaching.

The moral effect of a course of instruction dealing with truth, permitting imaging only of truth, and leading to and inducing productive imagining by combinations of truth are self-activities leading to the true and the beautiful of life and that make for these qualities in character. When schools are thus conducted we may know what we are doing. When education proceeds from fairy tale results may appear brilliant if the work is well done, but we can not know the moral tendency of it and therefore be sure of what we are doing.

There must be reasons why so many persons who are taught to read in our schools do not read at all in mature life, or read that which is of no profit or that which is harmful. I feel sure that those who do no reading in after life are they who, when learning to read, learn words only, without interest in their content, and I fear that those who read unprofitable or harmful matter are they whose minds were built when contemplating that which was known to be unreal or false. The unreal is an unsafe influence from which to get directing tendencies for developing psychic force.

The beginning of the use of literature in the child's education is that which is given to enrich the ordinary work of the school in experience getting. A poem or story of the right kind serves this purpose. A lesson is to be given, one of a series. The child hears the teacher repeat—it may be from Longfellow—something, little at least, much if it is possible for the teacher to give it, of birds. As the poem (or story) proceeds—

Learned of every bird its language,
Learned their names and all their secrets,
How they built their nests in summer,
Where they hid themselves in winter,
Talked with them whene'er he met them,
Called them "Hiawatha's Chickens"

the teacher sketches on the board, tree, stream, flower, and bird, each in its appropriate place in the composition, a pleasing picture. Then the children tell of birds they know, of birds they have seen, giving their names and telling where they have seen them. (They talk freely.) The bird in the room for study is examined; every child takes part. Other poems are repeated; another picture, it may be, is drawn, or the first is added to; children talk of birds at home, of birds in the wood, of birds in the meadow. During all this exercise language is corrected when wrong; children have repeated after the teacher lines expressing simple but beautiful thought. The examination of the bird is continued. A bird story is told by the teacher. Talking goes on freely under the direction of the teacher. A sentence given by the child is put on the board by the teacher. The process is repeated several times. This the children read and reread as the teacher writes it again and again, and copy from memory. For the first time they see the word "bird;" they learn it by sight. They make it in good script, and with it other words used in expressing what the sentence gives.

Literature has made this subject so rich, so interesting, so delightful to the child, that the drudgery of spelling and making script form is subordinated to the minimum. More, the realm into which the literature—art—has lifted the subject makes the form a delight to the mind, enriched by the full content given to it. The child's interest is in form for the time being.

The lessons on the bird continue many or at least several, days, during which time the peculiarities of form and habits and many facts of profit and interest are found out and given by the child in written language. New literature is repeated to further enrich the subject, giving to it added interest and delight. None of the literature is learned.

however; it is not given for that purpose. The full rounded work thus done, the facts thus discovered—and they are many—are put into reading matter, made by the child, written by the child, and read by the child. Now he may read some of the poems or stories that were repeated to him or text that gives additional information. He has made for himself sufficient power (power is the memory of doing) and has gained a knowledge of forms for doing this. The knowledge of the bird which he has acquired is the key he uses with this power. The reading of that which corroborates what has been found out by investigation gives confidence in self to a wonderful degree and is a promoter of effort in further research. The strength that comes from this confidence is used for helping self to become more helpful. This is the kind of reading matter that is the “easy step” toward that which is given as a source of new knowledge, an important matter for consideration. This is the second step in the use of literature in the work of the primary school.

Literature is first used as environment, an enriching source from which or force by which interest is stimulated. It lifts the subject in hand into the realm of safe emotional delight. Yet it is at no time intangible; its effects are legitimate and rational, safe yet satisfying. It is next used as a source of knowledge. New knowledge of the subject is secured by use of the very power the subject has itself induced, and becomes a means of refinement, and also as a field for drill in fixing forms and correlating memories for further interpreting uses in future school or life work.

An appropriate story is as good as a poem for this work; frequently both are used. The poem being too severe for the child is transformed by the teacher and given in prose story form. What a fund of literature may be made to do service in the work of giving interest to daily school work! To learn hard facts, to get the forms of knowledge amid the delights of the highest spiritual outgivings of human mind, is to have the drudgery of school eliminated or at least reduced to its lowest terms. (School life should not be drudgery; knowledge getting should not be a task.)

As a subject grows, the field of literature widens, both the part that is used as an inspiration and for enrichment and the part that is used for more knowledge getting, better understanding, and further application. This kind of work leads directly into the whole field of literature, for it starts from two points of interest with experience getting, whether of nature or of the social world, affecting the child. It is applicable to all kinds of experiences. The child is experiencing his way out and up; out of embryonic condition into individualism or identity; up from passivity, the creature of environment, to self-directed activity, in which he uses environment for self-growth and pleasure, but he is doing this in the atmosphere and under the improving influences of the most refined thought and expression of the human mind.

There is no uncertain fiction, no fable, no danger; there is truth and only truth, and that in its best array.

It must be noted especially that the child is not given the literature from which to learn words and get forms; this is not given from which at first to get content. The bird is seen by the help of this white light of human heart and mind; the purest rays of cultured soul light, and give character to the thing which the child is to learn. Content is so full, so delighting, that all else is dwarfed. Form is as nothing, or becomes an essential part of the content. Effort in form getting is the ever-willing handmaid to the queen, content, culture. The child learns of things and doings by experience, only this; but he learns them in an environment of influence which society has been fixing especially for him since man began to know and feel and act.

There is no uncertainty; the child sees and talks of what he sees; the child knows and talks of what he knows. By how much better does he see because of the literature (environment)! By how much richer does he know! How much more does he mean when he talks? What do words that he uses represent? What will symbols in this subject bring to him in the future? What symbols, what character of literature will satisfy him?

It needs not to be argued that it is easy to lead the child from this employment in learning words and forms of speech into literature that is pleasurable, profitable, and safe. He is never outside the influence of such literature. His whole knowledge of literature is restricted to this kind. His school life gives him no other. Books are from the beginning, first, a source of information, and, second, a perpetual delight. His songs even throw light on what he is learning, and thus add intelligence to his work.

Cultivation of the emotions begins now by direct purposive effort. This is the field in which the emotions are given healthy exercise in rich variety and under circumstances in which values may be estimated or determined. New flights of imagination are induced while contemplating the facts discovered and formulated, but all are held down by the test of truth that is well in hand for the teacher's determining, while the emotional life is given broad, but healthy, because appreciable if not even measurable, exercise. It is through this imaginative and emotional direction, given necessarily to the work, that literature other than that based directly on nature is found and used.

The rational, natural steps into literature are through experiences that involve the contemplation of the beautiful, the appropriate, the grand, the mutuality of things, yet always the true. Truth discovered in the light, under the influence, at the suggestion of high art leads to a liking for the art. The way environment affects self determines in large degree the images that are made by the soul, and the attitude of self toward things affecting self controls emotional life.

Most, or at least much, of the experience of the primary school may be had under conditions favorable to healthy exercise of the productive imagination and educative exercise of a large range of emotional activity. The work is carried forward in part with these purposes in view.

If flowers are to be the theme of activities for a week or more, the imaginations of the learners are exercised in contemplation of the happiness of birds, at their early coming, or their regret at their "taking off" by frost or storm; by contemplation of association of flowers by families or communities, each taking part appropriate to its nature, size, color, form, or general character, or by association in larger communities, composed of all the plants of the grove, or of the plants and the birds. The emotions are exercised by contemplating the uses of plants.

Bring flowers, young flowers, for the festal board,
To wreathe the cup ere the wine is poured.
Bring flowers! they are springing in wood and vale,
Their breath floats out on the southern gale.

* * * * *
Bring flowers to strew in the conqueror's path—
He has shaken thrones with his stormy wrath!

* * * * *
Bring flowers to the captive's lonely cell,
They have tales of the joyous woods to tell.

* * * * *
Bring flowers, fresh flowers, for the bride to wear!
They were born to blush in her shining hair.

* * * * *
Bring flowers, pale flowers, o'er the bier to shed,
A crown for the brow of the early dead!

* * * * *
Bring flowers to the shrine where we kneel in prayer,
They are nature's offering, their place is there!

—MRS. HEMANS.

I know the song that the bluebird is singing
Out in the apple tree where he is swinging.
Brave little fellow! the skies may be dreary—
Nothing cares he while his heart is so cheery.

Hark, how the music leaps out of his throat!
Hark, was there ever so merry a note?
Listen awhile, and you'll hear what he's saying,
Up in the apple tree singing and swaying.
"Dear little blossoms down under the snow,
You must be weary of winter, I know;
Hark, while I sing you a message of cheer!
Summer is coming, and springtime is here!"

"Little white snowdrop! I pray you arise;
Bright yellow crocus! come open your eyes;
Sweet little violets, hid from the cold,
Put on your mantles of purple and gold;
Daffodils! daffodils! say, do you hear?
Summer is coming, and springtime is here!"

—EMILY HUNTINGTON MILLER.

It is not easy to find literature for lighting the way in all experience getting. Fortunately this is not necessary. The work of learning soon becomes a delight. Memories of former enjoyments project themselves as side lights to help by the law of association. There is nothing more

social than knowledge; nothing more mutually helpful or cooperative than are experiences in getting knowledge. This is why the schools have been able to accomplish what they have done in the absence of systemized experience getting to start with. The supplementary reading to all experience getting takes the child into the very depths of literature. History is enriched with geographic description, travel, poem, and correlated fiction, while the higher types of literary productions in story and verse become a part of all the work of the grades. In the upper grades of the elementary school full productions of standard authors are taken for course work, while the supplementary reading is not restricted to matter for enriching the regular studies, as is the case in the lower grades.

The value of the correlation of mind and body for getting knowledge and for training the body, securing the two results by a united, purposive effort, has been alluded to many times in this report. The value to the learner of association and intimate connection with the original sources of knowledge while getting knowledge is a profound argument in favor of much and long-continued objective or field work in the formative period. There is no element of task in this. The attitude of the child toward these sources is that of interest and love. Sunshine, water, earth, and seed. How man labors to bring these together, a productive unity! Original sources of knowledge and mind!! or mind and opportunity, a creative unity!!! no task, no compulsion. Now, where experience is supplemented by the use of books for extending the knowledge gained and applying it the books take the place of the field in the mind of the child, and become also a source of interest and love. Thus is the element of task eliminated from the work and business of education.

GEOGRAPHY.

The experience part of the study of geography is of intense interest to children, and since it is work in the field it gives profitable health exercise and reduces the necessity for special physical training. It is regarded by the learner largely in the light of recreation. Very little initial work in learning geography can be done profitably in the schoolroom, though much work supplementing that done in the fields may be accomplished within doors with proper appliances and helps. For instance, how soil is made must be learned by field work, but after learning this the characteristics of the several kinds of soil may be studied in the schoolroom by means of proper specimens. Symbols (book), (chapter), of the right kind, give valuable enrichment to field and laboratory work and afford interesting and profitable employment for children. The schoolroom part of the work requires enterprise and

broad intelligence on the part of the teacher no less than that done in the field. A correlation of the results of experience and the knowledge gained from the books that are read, with all that a proper correlation means, i. e., work in collecting and representing; composition, structure of composition; sentences, structure of sentences; spelling, penmanship, secures the best possible training that can be given to children at this age and is a means of rapid knowledge getting and a means of permanent health getting. Nothing that can be thought of is its superior in value from an educational and developmental point of view. The child sees, examines, determines; then he reads what others have found out and written on the same subjects or on subjects related to these and interpreted by them. He works in the field, in the laboratory, in the library, for a single, definite purpose. He talks what he knows; he writes what he knows in sequential, correct composition. He does and learns; he gets from others; he puts the two together; then he records the results.

Only by doing work in the field can the child be made to realize the relation of nature and culture; only by work in the field can he understand what man has done and how he has done it, and why culture is what it is in many cases. The experiences in the field that lead to a knowledge of the distinctions between the geography of nature and that made by man, and that lead also to an understanding of the relation of one to the other, give the interpreting concepts for understanding and enjoying a vast amount of valuable information found in books. These books become as fascinating to the learner as field work is. The story involved in the location and growth of a city is not only as interesting, but its study is as profitable as is that of the derivation (history) and meaning of a word. Human action, with its causes, is that which gives greatest interest in each case. The word field may convey the idea of country or out of town investigation, but it is not thus restricted in its meaning or application in these pages. The city is full of geographic phenomena affecting daily life, all or much of which affords material for profitable study. The factory has meaning as well as the spring; the boat landing as well as the valley; the bridge as well as the river; the grain elevator as well as the mountain. The number of these that are not known to pupils who have learned geography from books alone would astonish him who has not investigated the matter. Yet much of what is here meant is that which must be known to insure intelligent citizenship.

Only by field work leading to close observation, supplemented by work on relief maps that are but slightly exaggerated, can the learner translate a contour map to advantage or see in the ordinary map, shaded to show relief, even approximately, the relation of vertical and horizontal extension. Experiences in the field, supplemented by the study of relief maps, change the character of the ordinary map, giving it richness of meaning, which makes a study of it interesting, and in connection with reading about what it represents, affords most valuable

employment for the pupil. To learn to understand contour maps or relief maps requires much careful work in the field.

That the geography of the world (nature, culture) is not static, but is moving, growing, becoming; that the natural world is changing, building, and that society is changing, building, must be seen through experience to be understood. When so understood, though the seeing may have been meager, books have vital meaning to the reader and thus fasten the attention through interest. This fixes the attitude of the child toward the book as it has been fixed by experience toward geographic phenomena. The book is not associated with imposed tasks; it is a source of delight. "The hills are not as they were; they are not as they will be; I have seen them change. The river banks are not where they were; they are not where they will be; I have seen them change. The valley is not what it was; it is not what it will be; I have seen it change a little and have found evidences of greater changes." Man is making changes in geography. These are also interesting. Books explaining these can be understood, and are read because of this interest. A child thus employed needs no government; the child thus interested in books will seek physical relief from schoolroom study by the activities in the field that gave him the interpreting power to profit by the use of books and a desire to use them for profit.

The experiences that are the interpreters of broad reading in geography, history, and institutional life lead to investigations on independent lines of thinking and give added interest to vacation terms. The child whose knowledge is thus begun does much to educate himself. The traveler has his subject before him wherever he goes. He studies it wherever he walks, in field or wood; wherever he rides, on river or wagon road. Every year of life is the "wander year" (*Wanderjahr*) to pupils who get geography in the right way. All experiences thus gained are brought to the school at the end of vacation to benefit fellow-students. What an aggregation of facts! What character belongs to such facts! Each fact is of especial human interest because it is presented by a fellow-worker.

The experiences which are the beginnings of geography as well as those that are the beginnings of history are in many instances the beginnings of the study of institutions also. Not unfrequently an event or condition can be made to lead, (1) to an understanding of geography, (2) to an understanding of history, and, equally well, (3) to an understanding of complex relations in society and the codependence of institutions. The museum, the library, the zoological park are at once geography, history, and institutional life. The bird, the flower, the waterfall are geography, zoology, botany, and physics. Here is a correlation in experience that segregates while grouping, differentiates while unifying.

If the boy goes to the field to learn of the changing of river channels he learns also of the mechanical power of water by force of gravity;

he thinks on these things, puts cause and effect together. He gets knowledge; he gets the best possible mental training. In doing what he does he gets the best possible physical exercise under the best possible conditions. In formulating what he knows, under proper direction, he gets the best possible training in making English, including structure of composition, structure of sentences, spelling, capitalization, punctuation, penmanship, and other more or less arbitrary matters of value necessary in representation. In doing what he does he disciplines himself in the best possible way in habits of accuracy, promptness, and other valuable moral traits. Here is union of all instrumentalities of self in effort. Growth of self is thus a compound of increment from every possible source of help—nutritive, dynamic, or moral. This is, indeed, a correlation of things learned by single effort, and is therefore of value, but of immensely greater import and value is it that it is a correlation of the instrumentalities of self in learning, the profound benefit of which is the reflex of the entirety of this correlated effort on each category of affecting instrumentalities—physical, mental, moral. These are the important benefits that our children should get from a study of geography.

ENGLISH.

It is the birthright of every child who gets his elementary education at a school in which English is made the symbolic representation of what he does and learns as his school work, so to be taught his mother tongue that he will speak and write it correctly and readily, including spelling and good penmanship.

This desirable result is secured by the right giving at the proper time in education, for language is not made by the child as is first knowledge; it is not discovered; it can not be developed; it must be given; the child receives it as a gift. It should not be given except when it is wanted by the child to satisfy a desire for expressing newly acquired knowledge. It is not given for its own sake, something to be acquired; it is given for the sake of what it will carry—content. The child so regards it when it is given at the proper time. It should then be given in oral symbols that adequately, truthfully, and correctly represent what is to be expressed. There should be no attempt to simplify. Following this in close succession the child should get the written form of what he has been led to say and thus correlate eye, hand, and tongue with consciousness (soul) in giving permanent correct identity to the new born needing a name. This, as said above, includes the spelling, for the child learns how his knowledge looks; his hand helps his eye to remember it. It includes the forms of the letters, for he wants his knowledge to look as his teacher made it look when he

wrote it on the blackboard. The teacher must know how to do this. He must do it or the child will suffer. There is a supreme moment when the spelling and a supreme moment when the written characters being supplied are forever learned. This is the whole secret of learning to write and learning to spell mother tongue.

It is of the Art of teaching to make the circumstances surrounding the child to influence him such that the supreme moment will come, while it is of the Profession of teaching to know when the supreme moment comes and to be competent to give the right expression in the right form (written).

The use of idiom required for the expression of relations belonging to a body or group of related ideas contained in the English complex sentence or the English compound sentence is as easily acquired as are the words representing the ideas (substance content) that are related. The reason for and the value of the use of the English complex sentence is too little understood. Its use is too frequently avoided in child literature, the result of which must be to leave the child weak in ability to get adequate meaning from well-expressed composition, and worse than this to train him to patchy, unrelated seeing, doing, and thinking. This weakness is discovered when the children get to the upper grade, where it is wrongfully said of many, "They have reached their limit." Great wrong is done the child if he is not led to use language for expressing himself that is as complex as is that thinking which should proceed from a seeing complex enough to include all the relations of the parts of the entirety he is investigating.

The English has little idiom that is difficult. This is a boon to the child too little appreciated. The forms of the relative pronoun, a few prepositions, and a conjunction or two properly added to the child's powers of expression will aid much and perceptibly at once in training him to talk better and in helping him to see relations of subordination and coordination, a valuable acquisition of power. Not to give him power and habit in the use of these helps in correct and full expression is to make him weak in seeing the relations they symbolize.

It is as easy to lead the child to say, "I see a boy who is writing," as it is to lead him to say, "I see a boy and he is writing," or, "In the meadow there is a tree in which there is a nest," as, "In the meadow there is a tree and it has a nest in it."

For acquiring a knowledge of and training in the use of correct, adequate language, the making or discovery of knowledge requiring expression in descriptions is secured by the examination of objects: of knowledge requiring expression in narrations, by experience in seeking objects, or in the duties, or associations, or pleasures of social life; of knowledge requiring expression in comparison, by comparing the objects used for description and the experiences used for narration; of knowledge requiring expression in exposition, by experiences and observations in doing, in accomplishing something requiring in its expression the use of description and narration in combination. The

simplest of these forms of expression are made by the child in the first year's work, by which he begins to learn the especial idiom that characterizes each kind of composition.

Discourse, the representation of thought, consists of words and other signs standing for ideas. Ideas relate to substance of thought and to relations of that substance. Symbols as words therefore may stand for the substance of thought or for relations of substance of thought. Relations of substance are also shown by position. To the extent that relations are posited as shown by logic of content, a language is positional. To the extent that permanent symbols as words are used to show relations, a language is logical. To the extent that forms are used to show relation, a language is formal. In the treatment of this subject at the present time all symbols except words, as punctuation marks, are disregarded.

Forms of words have two distinct functions in discourse, one to represent substance content, the other to represent syntactic relations.

Forms that show substance content are easily learned, as already shown; those that show syntactic relations are more difficult.

Although some forms are found in the English language, their number is comparatively small. It employs both logic and position for showing relations. It is, therefore, primarily a logical language and secondarily a formal language. In this respect the language is distinguished above all others. Then, too, it is entitled to distinction because the uses of the greater number of forms it contains can be easily learned as a part of content expression when knowledge is obtained by experience.

A general view of these forms will be helpful in considering methods of teaching the language.

All the forms of nouns to denote number and possession represent substance content. These forms are as easily learned as are any symbols representing ideas. To know nouns and to become master of all their uses does not require the knowledge of a single syntactic relation.

The forms of adjectives without exception, unless the demonstratives *this*, *that*, *these*, and *those* are called adjectives, are used to show substance content. To understand their meanings and their uses requires but little, if any, more power than is necessary to master the meanings and uses of the forms of nouns. What has been said of the forms of nouns and adjectives may be said with equal emphasis of the forms of adverbs. Pure relation words, the prepositions and most of the conjunctions, express only substance content, as *direction* (over, to, into), *place* (in, under, behind). *Ownership* and *tendency* are ideas of which there are many whose natural, easy, logical expression is by words differentiated for that purpose rather than by changes in the forms of words used primarily to identify content.

The forms of these words are not dominated by the forms of other words with which they are associated, or controlled by any syntactic relations whatsoever. The child learns both their meanings and their uses when getting the substance of thought and its symbols, the most interesting work with which he employs his time when at school.

It is thus seen that there are five parts of speech, the noun, the adjective, the adverb, the preposition, and the conjunction, whose forms and usages may be learned without any knowledge of syntactic relations.

By the use of these five parts of speech, with the help of a few present and past tense forms of verbs which are all substance content forms, the child may represent in correctly expressed discourse a body of thought, great in amount, valuable as an acquisition, and logically learned in psychic growth. Every word of it may be grammatically used and every symbol correctly and understandingly made, the speaker or writer being innocent of the knowledge of all grammatic rules and all syntactic relations and of any suspicion of dominion or servitude usually called agreement of words.

The body of thought to which I allude is represented by the following: "I picked two, bright, green leaves on the way to school this morning. The margin of one leaf is notched whereas the margin of the other is entire." While the child is learning this large body of thought by experience, an exact, appropriate, and elegant use of language can be taught. This is the time and opportunity to begin the development of a discriminating use of words. It can only be done by a correct getting of the thought substance of speech, the teacher dictating the symbol when the thought substance is understood with discriminating accuracy. It is not possible to give to young children who speak any other language than the English this training in representing by a liberal, elegant, and exact use of words more than a small part of what they may be led to discover and to know. The demand for forms to show relations by the representation of supposed affinities makes much of this valuable work impracticable in the early steps in the learning of other languages. The relations involved in the use of the body of words here alluded to are posited; their expression is logical in the English.

Now by the use of the pronouns *which* and *that*, substance content symbols, it is possible to add the clause element to what may be done by the children, thus making more variety and greater strength of expression possible. By the use of these words the body of discourse which children can learn to use correctly without a knowledge of syntactic relations is greatly enlarged; moreover by their use a tendency to employ an incorrect form of sentence, too common in literature for children, may be avoided, and the children be led to appreciate the use and value of the complex sentence.

"This is a short name and you have heard it before," will give place to "This is a short name which you have heard before."

The use of the four demonstratives, *this*, *these*, *that*, and *those*, at this time will make a still greater variety of expression possible and easy. These words are easily taught by correlation. They are the only words in the language used adjectively requiring agreement in forms with those of the nouns which they restrict or limit.

The simplicity of our language is seen by comparing the paucity of this element of syntactic forms with the abundance of the element con-

tained in the Latin or the German. The element of agreement of adjectives involving also the use of the article, in gender, number, and case, with the nouns which they modify, costs more labor and more mature thinking on the part of the learner in gaining a knowledge of the German language than is required for learning all the forms of the English language, if the latter are learned for the expression of their substance meaning.

The verb is not so easily understood as any one of the five parts of speech mentioned above. Yet this is not difficult when it is studied from the standpoint of English sentence structure. The absolute past tense forms being used to show only substance content require no knowledge of syntactic relations for a full comprehension of their meanings and uses. The absolute future tense is not shown by forms, but by words expressing substance content. The relative tense is exhibited by *have*, *has*, or *had*, substance content words, and a verb form which is learned as a word representing substance content. The correct uses of only the three forms, *have*, *has*, and *had*, require an understanding of syntactic relations. These are first learned as substance content forms in their primary uses before they become helpers or asserters. There are no modal forms belonging to the English verb to be learned. Modes of action are expressed by words and forms of words that show substance content. Their correct uses can be learned better by a study of thought substance than by a study of syntactic relations. Indeed, their more difficult uses are understood only by a thorough knowledge of the correlations of their substance content. This is to be acquired by a study of the correlation of the primary meanings of these words, involving a study of the substance of thought, but not of the structure of expression, as these words are symbols of substance relations.

The verb must have a certain form when its subject is of the third person and in the singular number. This is a syntactic form, but as it is invariable both in form and in use it is easily learned for purposes of correct speech.

The so-called verb *to be* has six forms that are in part substance content forms and in part syntactic forms. As these are not different forms of the same word, but are different words doing office as different forms of the same word, their syntactic uses can be learned best by memorizing their correlations. For expressing time these words are substance content forms, and as such must be learned as any other symbols are learned that represent thought substance.

There are modal uses of some forms of verbs for expressing hypothesis which, however, are easily understood.

If, now, we summarize the forms of verbs and their uses we find one very difficult form, four forms that are somewhat difficult, and one very easy form, belonging to those we have called syntactic forms. The others are all learned by a study of the substance of thought. More than 95 per cent. of the forms of verbs may be mastered by a study of

thought substance and by learning symbols that represent it independent of relations.

The pronoun is the only part of speech that retains much syntactic form element which characterizes this part of speech in formal languages.

Syntactic forms of pronouns must be learned for subjective uses, attributive uses after the asserter, and for objective uses both after transitive verbs and after prepositions.

All the possessive forms of personal pronouns are substance content forms except the one that stands for an antecedent which is modified by an adjective applying to each of more than one.

The learning of pronouns is more difficult because of the tautology the use of this part of speech involves. They show relation logically or by position, and by form also when used as word elements, and when used as parts of phrases they show relation by form; although the relation is represented by the preposition forming a part of the phrase. This difficulty is easily overcome, however, if the use of nouns in construction is first taught.

Of the syntactic forms of pronouns, there are,

Of the personal:

2 for the masculine singular;

2 for the feminine singular;

1 for the neuter singular;

2 for all plurals; and

1 for the possessive pronoun when it represents a singular which is modified by an adjective that applies to each of more than one; and

Of the relative:

2 for the masculine and feminine singular;

1 for the neuter singular;

2 for all plurals; and

1 for the possessive.

Belonging to pronouns there are but six substance content forms, eleven syntactic forms in their relation to verbs and prepositions and two syntactic forms in their relation to their antecedents, to be learned.

The syntactic forms, thirteen in number, show five different relations, two of which require subjective forms; two, objective forms, and one, possessive forms. The learning of six substance content forms and thirteen syntactic forms for five different relations is not a difficult task.

A few conjunctions will require attention, especially three or four sets of correlatives.

More than 90 per cent. of the forms of the English language are those that can be learned by first learning the substance of thought as the child learns symbols in the easiest and most natural way when he learns them correctly. A large percentage of the syntactic forms are learned by correlation, an economical and rational way of learning language forms that can be so learned. The small number of syntactic

forms found in the language shows the magnitude of the logical element in the syntactic structure of the language.

It must not be supposed that there is no English grammar for children to learn. There is much, but it is grammar belonging to the English language. The wonderful flexibility of the language makes the study of the use of words profitable for disciplinary purposes, for the acquisition of valuable knowledge, and for cultivation in the correct use of substance content element. Strange forms and strange uses appear because of this flexibility, which must all be studied before a correct use of them is intelligently possible. All this work, which is thoroughly refining and cultivating, belongs to the upper grades of the elementary school.

The absurdities and tautologies of the formal languages have been thrown off to an astonishing degree. He who would learn English may give his attention almost wholly to the study of the substance of thought, to the acquisition of thought, the symbols by which it is represented requiring only subordinate effort in mastering them to a remarkable degree. The pupil, however, should be led to learn this substance in logical sequence or relation, and while learning it he should be taught its expression in the spirit and according to the genius of the English tongue.

To construct a system of relations for the child out of suppositional conditions of genders, cases, persons, and other attributes for agreement where there is absolutely no agreement—where there is nothing in fact requiring agreement; nothing requiring specified forms; where there is absolutely no governing, no obeying, no dominance, no servitude—is to fill the mind of the learner with rubbish which must be brushed away before he can understand the structure of the language and acquire an easy, correct use of it.

If taught as a logical language and by use for the expression of thought substance known in its logical relations, the child can learn to use it not only correctly but also intelligently. He may learn to use it in accordance with laws that he understands. He may know that he uses it correctly, and be in a condition at all times to improve his speech by practice. The process of learning substance of thought must be methodical, and for the purpose of getting substance that is related logically, and suited to the use of idiom which it is the purpose of the lesson to teach the child. Then he must be given this idiom at each step when he needs symbols for the expression of what he has learned.

Frequent complaint is made against the deluge of language lessons now imposed on the schools, and desires are expressed for a return to formal grammar that was displaced by them. The language lessons came in response to a demand for a change in forms of expression that could mean nothing to the child, for emancipation from a cumbrous system of supposed conditions that the most mature mind comprehends only by association.

If language lessons are a disappointment, it is because this cumbrous system of suppositional relations has been retained. Nothing new has been taught. An attempt has been made to teach the old by a new method, but the old modes of speech have been retained, the old phraseologies used, the old tests employed. It was putting new wine into old bottles.

The freedom from tautology that characterizes the relation element of the English is one characteristic that gives to the language grace, much beauty, and rare simplicity.

The absence of gender in English, standing for supposed sex, gives to the relation elements connecting modifying clauses with antecedent words a simplicity that makes their correct use easy. How great is this relief from domination is seen by considering the large number of genderless nouns found in the language compared with the small number of those expressing sex. To every one of these *which* or *that* will connect a subordinate clause placed in either the subjective or the objective relation in the clause of which it is a part, and that without thought of gender, person, or case, or of number, except when the word is used as subject in the clause. But this freedom from dominance does not help him much who is made to learn a gender for every noun and afterward for the pronoun standing for it.

Children may be taught to use the English tongue understandingly, both correctly and forcibly, if its difficulties be graduated to their developing strength and if its uses be taught by causing them to express their own ideas, correctly symbolized.

The process of learning to see is slow. It is, however, easy if the beginnings are made simple and if each step is in sequence to the one preceding it. The mind grows by slow increments; it expands by short stages, but it grows and expands easily as does its physical home when given opportunity to do so naturally. To learn to see, the child must make purposive efforts in looking; he must look for the purpose of discovering characteristics. These are not easily seen. The child does not see until he has looked many times, but when he does see he sees relations.

At each step that marks success in the effort of seeing, abundant opportunity may be found for giving exact symbol to express idea, whether of substance or of relation. This the teacher must be prepared to dictate. Unless the teacher has not only the power to train the child to look discriminatingly, but also the academic equipment to give him the symbols required for the expression of what he is led to see, the child will not learn the English language as it should be learned.

The early steps in this work should be taken before the child begins the learning of symbols by sight, to the end that symbols learned may have correct and definite meanings. This is the beginning of correct language training. This training in language should not only precede all effort at teaching the child to read, but for a long time should be

contemporaneous with the work of teaching him to read; indeed it should be a part of the work.

The sequential steps of learning to read are:

First. Gaining information first hand.

Second. Learning properly to express orally what has been learned.

Third. Learning by sight the symbols or the forms that have been used in oral expression.

He who has not had experience in gaining information first hand, and a corresponding experience in representing such information in oral symbols, is not properly prepared to take the third step in learning to read. The more knowledge the child has gained first hand, and the more practice he has had in the expression of such knowledge by oral symbols, the better will he be prepared to learn to get information from the symbol. It is of the first importance in this early work that every sign shall be the symbol of what he has expressed himself, and it is equally important that this expression shall be correct, that he may acquire nothing which will have to be removed before correct form can find place.

The influence of learning correct idiom on the child's habit of speech is admitted. The influence of practice and drill in the use of correct idiom for the expression of his own thought is much more potent. Trained to express himself correctly at all times, the child will be able to read standard English without having it simplified for his comprehension. It is not creditable to the way we teach English that publishers have been engaged in simplifying texts for use in the schools. It is better to train the child up than to bring the English of the text down. Much of the simplified text is unfit for use as reading matter, because its original form has been changed into poor English. Simplification of text is not necessary. Training in the use of good English will enable the child to understand well-expressed text.

The experiences of the formative period furnish thought materials (mind stuff) well adapted to the purpose of securing a correct and discriminating use of the English language. It is wise to restrict the work at first to the examination of objects. Nature affords an abundance of these:

1. It is of absorbing interest to children for the reasons (1) that the facts are within the scope of their comprehension, and (2) that, to gain a knowledge of these facts, varied and correlated activities are employed.

2. This material affords opportunity for studying exactness of quality, exactness of relation, exactness of action, and exactness of cause of action. In representing these the child may be led to discriminate in the use of words by knowing thought substance accurately which the words he uses are intended to represent. *He may know.* Herein lies the superior value of teaching language in its early stages by use of knowledge gained by experience rather than from literature. **The**

child may be made to know exact conditions and may be taught the words representing them, whereas if language in its early stages be taught from literature the teacher can not know that the child comprehends the substance of thought exactly, and therefore that he learns appropriateness and exactness in the use of words.

3. The material affords opportunity for teaching a vocabulary as broad and varied as can be desired; one, too, that is well suited for general use, for if the work be taught correctly the number of technical terms not available for common speech will be comparatively small.

The relation element of speech is not found in the vocabularies of most children. In too many instances it is not found in the texts used by them. This material gives opportunity for teaching it naturally, by which means it is easily learned and is afterwards naturally employed in common speech. A discriminating use of relation words, which is acquired only by practice, in representing logical thinking is an evidence of culture in speech. It can not be acquired economically from literature.

4. It affords opportunity to teach the grammar of the English language thoroughly and in its purity, doing it by a concealment of art by art, inducing a self-imposed effort to express correctly that whose acquisition has been a source of delight.

5. This material affords opportunity to grade the work, making a systematic and scientific course of language teaching and language practice practicable. It affords opportunity for children to practice always on work unlike any that they have previously had, yet never offering difficulties which they are not prepared to overcome. Thus does the child learn spontaneously by self-activity, although under control, because he is unconscious of the control. This is school spontaneity.

6. It affords opportunity to teach the forms of speech that characterize the different kinds of prose composition.

(a) Idiom that belongs to description is given the child when he needs it, the time when he can learn it most naturally, and when it means exactly what it should mean to him. He is learning facts of substance or of relations that demand exact and elegant expression. This he should be able to get from the teacher.

The duck is covered with feathers that keep her warm,
instead of

I see a duck, and she is covered with feathers, and the feathers keep her warm;
or

I see a duck.
She is covered with feathers.
The feathers keep her warm.

The sticky varnish with which the horse-chestnut scales are lined keeps the rain out,
instead of

The horse-chestnut bud has a sticky varnish inside, and it keeps the rain out;

OR

The horse-chestnut bud has a sticky varnish inside.

It keeps the rain out.

In the tub near the door are two frogs that my brother caught in the pond last night,

instead of

There is a tub.

It is near the door.

There are two frogs in it.

My brother caught them.

He caught them last night.

He brought them home with him.

Effort which children speaking other languages must use in discovering affinities of words and the forms that represent them may be used by English-speaking children for learning varied and elegant expressions for complicated relations which they have discovered and desire to represent.

The pointed white leaf that envelops the flower spike of the Calla serves to protect the bloom which it surrounds.

By means of these gills the fish is able to absorb oxygen from the water in which it lives.

(b) Idiom that belongs to comparison and contrast is given the child when he needs it for use, when he makes comparisons.

The horse-chestnut bud scales are covered with a sticky gum which makes a water-proof for the flower and leaves, whereas, the tulip bud has no such protection.

(c) Idiom for use in narration is given when it is needed. Here is offered an opportunity for the learner to get a masterful use of the conjunctive adverbs of the language, in the subordinate clause element standing for time sequence relations and also the use of the present and past participles representing by their content and logical positions in the sentence similar relations in varied shades of meaning. This latter element, which is conspicuous for its absence from common speech in school exercises, is at once one of the most flexible and elegant time sequence elements of the language. It is learned best by practice in expressing substance content that has been exactly learned.

7. The material affords the best possible opportunity to train pupils in the correct use of a vocabulary selected for the purpose of representing the first tangible products of the imagination. The life of the spring, the forming of a water drop, the autobiographies of a rivulet and a water lily contrasted, the three lives of the cocoon, indicate the character and variety of topics on which pupils may be led to invent stories.

From two pedagogical points of view is this last work especially valuable.

(a) It gives the pupil training in the use of a controlled imagination by compelling him to keep his invention within the limitations of facts

whence he takes his flight and which he knows thoroughly. It gives the teacher opportunity to hold the effort to healthful imaginative work.

(b) It gives opportunity for training in the exact use of words for the representation of imaginative discourse. The teacher may know that the child uses words to represent what he has in mind and desires to state.

From the foregoing it is readily seen that much of the work of becoming acquainted with the English language is done while getting substance content. This is not only not difficult, but is a delight to even the youngest child. The work requires isolation occasionally for special drill, but this is necessary only after the child is so far advanced in the formative period and has become so accustomed to school processes that the isolation is pleasurable rather than irksome. Every new form identifies content in which the child has an interest.

The English language has a genius of its own, which every English-speaking child should learn. He should learn this before he learns or attempts to learn any other language, so that in learning other languages he may compare them with the English which he knows. His knowledge of English should be the interpreting nucleus for other languages. The teacher in the high school or in the college should teach the foreign languages or the dead languages by reference to the structure of the English language. This can not be done unless the child understands the English language. The majority of persons who have tried to learn the English tongue have learned it after studying other languages. This is wrong. It complicates matters and makes it difficult for the learner to get the genius of the English tongue. As early as the fifth grade, or perhaps the latter half of the fourth grade, the child should begin to understand the structure of the English sentence. This structure so conforms to the logical process of thought that an understanding of the real genius of the sentence is easily possible for the fifth-grade child of ordinary intelligence. But he who teaches it must do so from the standpoint of English, not from the standpoint of German or French, or Latin or Greek. The English, as said before, should be the standard of comparison when studying other languages. This is not the case as languages are taught to-day in English-speaking schools. I do not understand why it has been the custom, and is now the custom, for all teachers of foreign languages as well as of the dead languages, to apply other than English standards and rules in teaching or referring to the English language, yet this is almost universally done.

In learning mother tongue direct purposive effort should be imposed as little as possible until vital interest in it has developed, that there may be associated with it the minimum thought or feeling of drudgery. There must be given to symbols the idea of source of enjoyment and satisfaction. The attitude of the child toward mother tongue should be that of wanting more and of desiring to know more and better, as it is of flowers or birds, because of the enjoyment it brings, the condition of a little child beginning to talk.

I have made an earnest plea for the study of English from its own standpoint in English-speaking schools. The Washington schools, if they have done nothing else, have demonstrated that the English language can be taught in its purity while the children are getting content in other branches of education, and that this is the time to teach the language.

This is brought about by making language the handmaid of content as it is with the young child; the difficult forms are they, when learned, that alone will represent what it is desired to express. Toward the close of the experience grades of school and in the grammar grades the language may be studied objectively, for interest in it will obtain. The child loves his home, it has done so much to make him happy; he loves his teacher, he has helped him to what he has wanted so many times; he loves his language, it has served him so faithfully and brought to him so much that he has wanted to get.

I propose a change in the nomenclature of the grades of the school. The early grades may appropriately be called the experience grades, while the later grades may with equal propriety be called the grammar grades, as they now are. In the early grades the child experiences the purposes and values of symbols by getting mother tongue, while in the later grades he should learn the structure of mother tongue. He should know it objectively, as an instrumentality that unites him with the society of the world and of the ages. He should know it as a point of view from which to know other tongues. From this point of view only should the child be allowed to study other languages; the standpoint of philological study.

EXPERIENCE; SYMBOLS.

By experience the child has developed a soul; from symbols that soul may feast and grow on food prepared wholly for its use. By experience the child has builded him a habitation; from symbols he may furnish that habitation so long as he occupies it. By experience the child has opened to his view a vista to delight his understanding senses; by symbols the vista is projected laterally to include an almost limitless outlook on the present, and into the richness of the shadowy past.

The child must be made to love mother tongue.

MANUAL TRAINING.

The Hon. Carroll D. Wright has shown the value of machinery in the education of operatives, in that, as the facts prove, three distinct sets of persons have been placed in the mills of New England. Each time a change was made a lower grade of persons was taken in the interest of economy. Each set taken proved equal to the work, grew

into it by the education of the industry itself, becoming thoroughly efficient. Each set displaced a higher set of operatives. They who were displaced were not thrown out of employment, but found more lucrative work in a higher grade of activity offered by society, showing the elevating tendency of the machine work. Machinery today, he also says, is educating the poor white of the South, making him careful, prompt, regular, and reliable.

This is manual training. The man who works a loom must be careful or his thread will break; he takes care and thus cultivates the eye and hand and, in conjunction, the mind. He who runs a machine must exercise care or he will be hurt by the machinery; thus he trains himself to right movements and positions and thereby gets control of himself, body and mind. He must be prompt and regular, for the machinery starts at a given hour or moment, and the proprietor depends on him to be there; thus he develops good habits—habits that help to make a good citizen—and becomes a man who feels responsibility and has self-respect, important conditions of good citizenship. Then he learns of the structure of the machinery, the purpose and names of its parts. He sees the value of each to all and the necessity that each shall do its part well. From the understanding of this he is led to understand the value of the individual to society. He learns the sources and values of materials used, the values of the products, and thereby the value and importance of labor and skill, as well as the places and values of markets and the means of reaching them.

This, however, is the least valuable kind of manual training. It is only narrow trade learning, and is restricted in respect to the number of persons it trains or helps, and therefore meager in value to society as a whole. It comes to persons in most cases in mature life, which is too late for the best results it affords both to the individual and to society as a whole. Work more valuable than this to the individual, and which must prove more so to society, because it is selected for educative purposes, is given in our schools to all the children, male and female, when they are growing—forming in mind and body. Its purpose is not to make artisans, but to give the benefit of the training it affords to all the children at the time when they are forming psychic character. I quote from an annual report something which shows why the work was introduced and giving some idea of its character. This work has changed somewhat since the report was made and is changing as experience shows what ought to be done.

MANUAL TRAINING BETWEEN THE EMPLOYMENTS OF THE KINDERGARTEN AND THOSE OF THE TOOL LABORATORIES OF THE GRAMMAR SCHOOLS.

[Taken from annual report 1890-91.]

It was a comparatively easy task to project plans for giving instruction in sewing, cooking, and tool laboratory employments. It was not difficult, the financial means being assured, to provide and arrange appliances and practically to put the work into the respective grades of the school. It was seen, however, at the start, though much might be done by the introduction of the employments named, to give to some

of the children valuable training in the use of the eye and hand and a profitable acquaintance with practical things, that such a course would be unsymmetrical; that it would postpone the beginning of some kinds of muscular training too late for the most profitable returns for a given expenditure of effort; that it would omit entirely some lines of desirable training because of its narrowness, and that children withdrawing from the school during the early years of the school course would get little training of the kind we were seeking to give them.

It was felt that a year or two of primary kindergarten work at the beginning of school life and a corresponding amount of shop and laboratory work at the close would not develop to a very high degree that accuracy of perception, deftness of hand, and trustworthiness of judgment in application that a child's school training should give to him.

It was believed that the gap between the sense-training of the kindergarten and the use of carpenters' and metal workers' tools in manual-training shops should be filled by a system or course of hand work in the schoolrooms running parallel with the purely mental studies of the curriculum of the same grades; that such a course should by its many and varied employments develop the eye, the hand, and the judgment in the direction of expertness, facility, and reliability; that definite, measurable results in skill, ingenuity, and in continuity of effort for the accomplishment of purpose should be the aim of all teaching in this course of work, and that such a course, if practicable, would be in the interest of economy.

Since the beginning of manual-training exercises in our schools, therefore, efforts have been made to arrange some practicable lines of hand work that should begin in the first primary grade and lead sequentially to the employments of the laboratories of the seventh and eighth grades for the boys, and that should be equally profitable to the girls, who would be instructed in cooking when reaching the same grades.

Drawing was at the time mentioned a branch of instruction in the schools. It was determined that the subject could not be taught well from flat copies.

It was known, though we had not been able previous to the time to which reference is made to direct the work of drawing in the light of our best knowledge, that only by a liberal and an intelligent use of objects by which children could be made acquainted with natural and art forms could drawing be successfully taught. It became more evident every day, as the work of teaching drawing was studied, that representation even—the simplest forms sought by the study—could proceed only from an accurate knowledge of the facts, for, however appearance of forms might differ from the facts, the underlying causes of the differences could be understood only by him who had been made acquainted with the facts.

Furthermore, when contemplating the purposes of the study higher than those of simple representation, it was believed that as a healthy productive imagination could be cultivated only after there had been acquired a store of facts well understood, so artistic work could be done by him only who would fashion his art out of materials taken from his own conscious storehouse of facts whose relations were understood.

It was agreed, therefore, that if the child is to be taught drawing at all, no matter for what purpose, first of all the teacher must see that he has abundant opportunity to learn from facts, and that as in the study of spoken or written language, so in his study of drawing or of graphic language, he must be made to know before an attempt is made to teach him expression. An important step forward in the teaching of drawing was made when this almost axiomatic truth was recognized.

It was believed also that facts could not be learned from representation or from dictation, or from both.

Children learn to know forms only imperfectly by seeing them and handling them. They get correct permanent conceptions of forms best by analyzing them and by putting them together, and by making them of different sizes and of different materials and under different circumstances and for different purposes.

Form study requires the action of one set of nerve centers excited by the eye cooperating with other sets of nerve centers excited by muscular action of fingers and hands, directed by the will, for the establishment of correct, permanent concepts of form. Concepts are built.

Form study and drawing are sequential steps in the order named for beginners, form study being the first, drawing being the second. Form study is a prerequisite to drawing. Manual training is one of two coordinate parts of form study. Manual training, then, and drawing are as inseparable as are ideas and words in the study of verbal expression.

Drawing was selected as the branch of study along whose lines of work and related to them might be found those employments that would afford all the training desired to make the manual course of the school symmetrical and a unified entirety.

Apart from the strictly practical sense cultivation, much may be done by this work to assist the esthetic and the moral growth of the child. The study of graceful forms and harmonious coloring will stimulate a love for the beautiful and appropriate, which will leave its impress on the work of his hand. In his home, in his dress, and in the products of handicraft good taste will guide his choice of form and color, and thus render the world brighter and pleasanter both for himself and for those about him. The appreciation of the beautiful and of the pure and chaste go hand in hand and will keep the mind and heart ever with higher and nobler things.

From the kindergarten through the high school the pupil should be kept in constant intelligent association with the object world about him, that he may acquire knowledge of its structure and the laws governing its appearance. Without this knowledge of his environment, he is but a stranger wandering in a strange land. By the proper study of geometric solids and planes and of forms related to these, he will acquire, through the natural avenues of acquisition, sight, and touch, a comprehensive and classified knowledge of all forms.

His glance will no longer be dazed by a bewildering maze of edges and planes, for in everything he will see but the combination and repetition of certain type forms. To the little child the form world is as a tangled jungle, and must ever remain a perplexity until he has been led to a classification of its variations.

In this work, so necessary to correct, profitable instructions in drawing, is found an opportunity for the training of eye, hand, and judgment simultaneously. In these employments the making of geometric forms, of natural forms allied to them, and of art forms developed from them, and of common objects based upon them, is in part the work for which we have been seeking. What an amount of profitable seeing is here made possible! What employments for the acquirement of deftness and reliability in the use of the hands and fingers! What delightful exercises for the development of judgment and taste!

The general purposes of the course of exercises developed are:

- (1) Storing the mind with true conceptions of forms and colors and developing the ability to acquire new concepts.
- (2) Developing the ability to select from masses of materials that which is appropriate for specified or desired purposes.
- (3) Directing the attention to the essential elements of the beautiful in nature and in art, neglecting in such attention the accidental, thus developing the beginning of an artistic standard.
- (4) Training the hand to use, shape, and arrange materials with neatness, accuracy, and taste, that the learner may express artistically, i. e., with truth and beauty.
- (5) Teaching the use of tools adapted to the age and strength of the child and to the character of materials employed.

The following outlines and remarks show what we are doing:

SCHEDULE A.

Subjects.	Grades.							
	First.	Second.	Third.	Fourth.	Fifth.	Sixth.	Seventh.	Eighth.
Drawing:								
Pencil drill	×	×	×	×	×	×	×	×
From construction by the pupils	×	×	×	×	-----	-----	-----	-----
From made objects	×	×	×	×	×	×	×	×
From nature	×	×	×	×	×	×	×	×
Original designs	-----	-----	-----	-----	×	×	×	×
Working drawings	-----	-----	-----	-----	×	×	×	×
Geometric problems	-----	-----	-----	-----	-----	-----	×	×
Modeling in clay:								
From made objects	×	×	×	×	-----	-----	-----	-----
From nature	×	×	×	×	×	×	×	×
To measurement	-----	-----	-----	×	-----	-----	-----	-----
From the cast	-----	-----	-----	-----	-----	-----	×	×
Original designs	-----	-----	-----	-----	×	×	×	×
Carving in clay:								
Ornament from the flat, incised	-----	-----	-----	×	×	×	×	×
Ornament from the flat, in relief	-----	-----	-----	×	×	×	×	×
Original designs	-----	-----	-----	×	×	×	×	×
Construction with other materials:								
Sticks	×	×	-----	-----	-----	-----	-----	-----
Paper folding and cutting	×	×	×	×	-----	-----	-----	-----
Development in paper from working drawings	-----	-----	-----	-----	×	×	×	-----
Designs, applied—								
To clay	-----	-----	-----	-----	×	×	×	×
To paper construction	-----	-----	-----	-----	×	×	×	×
To cloth	-----	-----	-----	-----	×	×	×	×
Language	×	×	×	×	×	-----	×	×
Color	×	×	×	×	×	-----	-----	-----

SCHEDULE B.

Tools and materials in the hands of children.

Grades.	Clay.	Sticks.	Tablets.	Pencil and paper.	Colored paper; water colors.	Card-board.	Tools for modeling and cutting.	Mincelage.	Scissors.
First	×	×	×	×	×	-----	-----	×	-----
Second	×	×	×	×	×	-----	-----	×	-----
Third	×	-----	-----	×	×	-----	-----	×	×
Fourth	×	-----	-----	×	×	-----	×	×	×
Fifth	×	-----	-----	×	×	×	×	×	×
Sixth	×	-----	-----	×	-----	×	×	×	×
Seventh	×	-----	-----	×	-----	×	×	×	×
Eighth	×	-----	-----	×	-----	-----	×	×	×

The work represented in the foregoing is correlated with most of the work laid down in the course of study for the respective grades. The manual training below that of the shops (seventh and eighth grades), is tributary in a valuable degree to the study of art, as is easily seen. These employments, however, give the very training desired as a preparation for the use of tools when the children go to the shops, while everything done helps in securing knowledge of some other branch of study; helps not only in learning and understanding it, but in representing and applying what is learned. What is done with the hands in connection with each subject is that which is necessary for learning by the correct method, as is our contention, and without which the child would not learn naturally and rationally. This is but experience getting; correlating mind and physical instrumentalities in the process of learning. Yet this is exactly what is wanted as the early steps in correct manual training, leading directly to the mechanic arts; nothing better could be provided for this purpose. Furthermore, it refines and trains on the art side. This is and ought to be the tendency of the mechanic arts in an advancing civilization. The employment of sloyd, or a primary course of manual arts of some other kind, but not correlated with the other studies of the grades, would not be in the interest of economy and would add to the burdens of the child, while its logical tendency would be to prevent the rational teaching of the other branches of learning. The hand has association with mind as a part thereof in sources of knowledge for acquisition and in the means of representing knowledge in all the primary elements of the same, nature, art, the artisan, literature, history, geography, institutions, science. This association gives value to handcraft that simple, isolated hand training for that purpose alone can never give. The value of isolated training is to this training in association as the effectiveness of pounding cold iron would be to hammering iron of proper heat for purposes of welding.

Manual training and mother-tongue learning should, for psychological reasons, not be isolated, taught apart from knowledge making in the formative period. In our schools manual training is not isolated below the sixth grade for girls and the seventh grade for boys. The manual training that we give before the isolation period is that which would be given were the work not to be continued in shops above, for this we believe is necessary for the desirable correlation of mind and bodily activities in knowledge getting in the formative period.

The manual training belonging to the process of learning in the formative period is but training the eye (perception) to see more accurately and the hand (courage, control) to do more faithfully for the brain, each helping the other proportionally, as both help the brain in growth and culture. He who in after life will want to dig or chop will be benefited by this training; he who will want to draw, paint, or carve will be benefited; he who will want to play an instrument—flute, piano, violin—will be benefited; he who will want to construct a mighty engine

will be benefited; he who will want to project or make a most refined instrument will be benefited; he who will want to pursue any kind of life whatsoever will be benefited. It is the training that gives to man supremacy, making him master of the situation in emergency. It is the training which will ultimately give to the mind of man its supremacy over its own abiding place, to make of it in the light of full truth a habitation worthy of such occupant.

The shops of the grammar schools and of the high schools are but the provision for the continuance of training already secured; training which shows valuable results. They, the shops, are the logical outgrowth of that which is begun in the primary school and continued to the isolating grades as the upper grades in other branches of education are the logical step toward which the work in these branches respectively, leads. The psychological correctness of this adjustment of manual training can not be controverted.

From the foregoing it is seen that all the children are trained in the use of the hand in exact work. The good effects of this training are seen when the girls go to the shops to learn the cutting and fitting of garments and when the boys go to the shops to learn the use of wood-working tools by the way they "take hold" of the work and by the rapidity with which they learn. The value of this early training is remarked by experts who at first are unable to see how it is possible for our pupils to do what is done by getting only one lesson a week, but who make the full explanation for themselves as soon as they learn what preparation the children have before going to the shops. The value, or effect of the whole system of manual training below the high school is seen to some extent by the percentage of boys who elect a technical course in the Central High School, the only high school in which manual training is given. At this writing these effects are shown in the following:

Number of boys in the fourth-year class.....	44	
Number of boys who take (elect) the technical course.....	13	
Per cent		29.5
Number of boys in third-year class.....	73	
Number of boys who take (elect) the technical course.....	16	
Per cent		22
Number of boys in second-year class	116	
Number of boys who take (elect) the technical course.....	34	
Per cent		29.3
Number of boys in first-year class	152	
Number of boys who take (elect) the technical course.....	51	
Per cent		33.6
Total number of boys.....	385	
Total number of boys taking technical course.....	114	
Per cent.....		29.6

The technical course is one in which manual training is a major study to which six hours a week are given.

The 57 boys who take (elect) the technical drawing, 6 more than take the first-year manual-training course, gave answers to five questions asked them, as shown below:

I. What is your intended future occupation?

Answers:

Electrical engineers.....	14
Civil engineers.....	13
Architectural engineers.....	9
Mechanical engineers.....	3
Naval architectural engineers.....	2
Total engineers.....	41
Scientists.....	2
Artist.....	1
Physician.....	1
To enter the trades.....	6
Do not know.....	6
	<hr/> 16
	57

Approximately 72 per cent. are preparing for some branch of engineering.

II. What is your father's or guardian's occupation?

Answers:

Government clerks.....	25
Mechanics.....	11
Merchants.....	5
Builders.....	2
Officials.....	2
Farmers.....	2
Retired.....	2
Housekeepers.....	2
Hotel proprietor.....	1
Civil engineer.....	1
Teacher.....	1
Lawyer.....	1
Minister.....	1
Mechanical engineer.....	1
	<hr/> 57

Approximately 43 per cent. come from the families of Government clerks, 19½ per cent. from families of mechanics, while the rest are scattered.

III. Why did you take the technical course?

Answers:

To prepare for college.....	22
At direction of parent or guardian.....	13
Fascinated by the work.....	12
As best general preparation for life.....	10
	<hr/> 57

IV. Do you intend to go to college?

Answers:

Yes.....	40
No.....	17
	<hr/> 57

The fourth question was put to all the first-year boys of the school. Excluding the technical boys, it was found that 50 per cent. intend

going to college, while 70 per cent. of the technical boys have college in view. There are no figures at hand to show how many graduates actually do go to college.

By the fifth question it was ascertained that 13 per cent. of these boys would have left school had it not been for the technical course. No one of this number intends to go to college.

Seventy-two per cent. of the 57 boys were attracted to the school especially by the technical course.

The average age of all first-year boys, exclusive of those in the technical course, is 14 years and 9 months; of those in the technical course, 15 years and 6 months is the average.

THE NEEDS OF THE SCHOOL.

One of the most important needs of the school system of Washington at this time is a building for the manual-training high school. We have such a school now fairly equipped and doing excellent work, but we need a house in which to put it, where both boys and girls may be trained for the higher and more lucrative activities of life. The rented quarters we now occupy are wholly inadequate. The higher manual-training course is but a logical outgrowth of what is done in the grades below the high school, as the boys of the seventh and eighth grades are now all taught in the use of wood-working tools two hours a week, and the girls who would grade into this school have had four years of training in sewing, cutting, and fitting and two years training in cooking. What is demanded now by the exigencies of the schools is the extension of our handcraft opportunity into fields where broader views of science, art, literature, institutions, broader knowledge of appliances and forces of the necessities and interests of society, are given (in the high school). The desirability is that the broader view, the more intelligent grasp of meaning, the deeper insight into values, shall come when the handcraft training comes, and in conjunction with it. This will not only insure to society, in return for the expense of the schools, inventors, creators, directors of economical or industrial institutions, but will produce men and women who will have insight into the social and institutional forces demanded for safe citizenship. A manual-training high school would no doubt soon grow to be a more important feature of our high-school system than is now the Business High School, in which between 500 and 600 pupils are enrolled at the present time.

DRAWING.

The beginnings of a knowledge of graphic art in our schools are obtained by drawing, painting, clay modeling, and carving.

Painting by use of water colors is taught in the four grades of the

primary schools and later in the high and normal schools. Our effort is to do more in drawing and more in clay modeling. The carving, which is small in amount, is connected with clay work. One important purpose of this work is that the child may secure a degree of aptitude in the use of the brush or the pencil or in making forms of plastic material that will be to him a ready help in representing that which he sees and will add to his power of ready and exact expression. This purpose is too frequently lost sight of. When this is the case the child is the loser, for by help of this effort comes the acquisition of power to see, if it ever comes. As verbal symbols should be given at first to represent only what the child knows and wants to express, so should effort in teaching drawing at first be restricted to the representation of what is seen when he is learning of things. The child, by his effort in representing, should be helped in learning how to see as well as in getting power to represent what is seen. The accomplishment of fair results in the two purposes of the work richly compensates for the cost and trouble of teaching this branch of education. To be able to see gives evidence of effort and acquired power; to be able to express that which is seen in idiomatic mother tongue or adequately to represent it by use of pencil or brush or in plastic material gives evidence of acquired culture—a product of powers trained. To be able to repeat what another has said or to represent from memory or by copying what another has drawn shows only too sadly what might have been accomplished had opportunity been given and properly used.

Things in relation are not what they seem to be. He who draws must be made to understand this fact. To learn to differentiate things as they are and things as they seem to be and to acquire the habit of appreciating this distinction when engaged in looking or examining is a large purpose of the work of learning to draw, for by drawing only is it possible to learn to make the distinction. The early steps in drawing are of two kinds: (1) Drawing for exact representation of things as they are—exact symbols—and (2) drawing for representation of things as they seem to be. The one kind is the matter of fact—that which leads to the practical of life, that which is used in the mechanic arts; the other is the beginning of high art—the representation of that which seems to be. In its beginnings, however, the second is of the practical in the mechanic arts for representation of things in relation, perspectives, elevations.

Correct representation should be the ambition of the child. Representation is his first desire. It shows that he sees and that he wants others to see. Effort to make exact representation should accompany other symbol getting—words. This correlates effort of hand in brush and pencil using with effort of hand in word making with pen or pencil when knowledge is made or discovered; this gives a change of employment, which is rest. It helps also to fasten the knowledge by giving to the mind new conceiving values—color, form. Drawing thus becomes broadly educative and helpful. Hand by writing (symbol making)

has helped the mind to identify knowledge; by this new means (drawing) it helps the eye to do accurate work—to make no mistake—and to represent knowledge by another kind of symbol for the use of eye. The hand gives to mind confidence in eye and the offices of these two on mind enrich the spoken and the written word, and likewise the mind thus trained that interprets the written or spoken word. The value of cooperative effort of the instrumentalities used by the individual in the building of self is as great relatively as is that of individuals in the building of society and the reflex benefit of correlated effort is as great to each instrumentality in the one case as is that to the individual in the other case. What wrong is done by effort to educate the brain apart from its associates in formative life? Drawing in its early stages, not connected with knowledge-getting for representing it, is probably as barren as is the learning of words whose content is not known and never will be. When used at the time of knowledge-getting, hand cooperates with voice and with eye by double effort, (writing and drawing) in registering knowledge—fixing it in mind.

To get the representation of things as they appear to be involves the seeing of the third dimension. This may come so gradually that the pupil may be able to learn it much as he learns the more difficult idiom of mother tongue by help of the teacher in directing the seeing and by corresponding help in showing the symbol at the right time and showing how to make it. The relations of things and doings gives rise to idiom in speech; these must be seen before the idiom is given. Relation of things in space gives rise to perspective and to change in the appearance of things; these must be seen before the representations are given. This part of the work must not be done with any more uncertainty than is idiom teaching in speech. As in speech the child in his early work learns to use correct idiom without a knowledge of the laws of its use, so in drawing the child learns to show perspective at first without a knowledge of its laws. The teacher must be able to lead the child to see; representation must follow immediately.

To get results in this work that are satisfactory, the regular teacher must know how to teach it, as is the case in teaching writing and spelling; this is most important. The child must not be made to wait till another time for another opportunity; another opportunity like this will never occur. These considerations indicate what the work of the special teacher or director should be.

The child must get definite training in those lines or kinds of work that have the broadest application in graphic representation. Geometric forms are used that the child may learn them and learn to draw them, and that he may get at the same time the first, or experience, steps in geometry, those that correlate with the early steps of arithmetic. Early steps in perspective drawing, arithmetic, and geometry correlate with language, spelling, and writing in the use of geometric forms provided for the purpose. In his study of flowers or other objects the child tries to represent them in color and by the pencil to

show colors and shapes. But he tries to do more. He attempts to show them in relation to other things, and he tries to show parts in relation to other parts of the same object. To do this he must get the kind of help that is given him when he tries to represent the geometric forms, and exactly the same kind of help that he gets when he tries to tell what he sees by talking.

HIGHER ART.

Many children will want to make pretty pictures. This is the first striving after art. It proceeds from a seeming that has come to the child from more knowledge which has given him a broader view. He has read stories, heard poems, and sung songs. His point of view is changed; the flower or other object seems different. He wants to represent it as it seems. He has learned in small degree to represent the seeming (perspective); he is willing to try to go further in this work. It is not wise to repress this ambition, though there is no doubt that in our school work we make too much effort to get art as a product. The influence of the presence of art forms in the schoolroom or in books that are placed before the children is in part the cause of this desire. The literature the child has had in connection with his effort in learning in all of his school work has also had largely to do with arousing and developing the desire to make a pretty picture. Our effort should be to get more from the influence of art forms as we do to get more of literary art to influence the child.

The music and literature learned when learning the hard facts of the flower or other object, or of process or condition under the influence of art forms in the surroundings of the child, will effect artistic seeing. This creates the desire to make art. Artistic self begins; from this beginning the artist must come, if he ever comes.

The man to whom—

A primrose by a river's brim
A yellow primrose was to him,
And it was nothing more—

could not have drawn the picture of a flower "that pleases," as, the artisan qualifications of the two being the same, could he who saw in flowers—

Day-stars! that ope your eyes at morn to twinkle
From rainbow galaxies of earth's creation,
And dewdrops on her lovely altars sprinkle
As a libation.

Ye bright mosaics! that with storied beauty
The floor of Nature's temple tessellate—
What numerous lessons of instructive duty
Your forms create!

The copying of art forms will not give the power we want the child to get. This is no more than artisan work at its best—the reproducing of that which has seemed to another. The art form seen, if seen at the

right time, educates, and educates in the right direction, and is necessary for securing valuable results; but drawing it (copying) will not do for the child that which will make of him an artist.

A musician, an artist, tells me that the technique having been acquired the true artist re-creates the composition every time it is played. Not unfrequently a composer, hearing his composition played by a competent artist, sees in it (hears) that which he did not know existed in it, and in fact that which he did not put there. The same musician tells me also that further practice from the standpoint of the purely technical, unaccompanied by effort in re-creation, does not add much to artistic values and therefore not to reputation, but that all practice proceeding from re-creation makes a noticeable difference in values, and therefore in the reception of the playing by those who know what they hear; and furthermore, that successes in trying to understand kindred arts on the same grade of values gives added worth to music and more pleasure in reproducing it and changes the character of the re-creations, and that these changes are evidences of the growth of the artist and are noted as such by the critics.

The child must create the art; it can come no other way. To do this he must have material within him out of which to create it. This we give him in the study of nature, in the study of literature, in the study of music, in the study of architecture, in the study of art forms, in the study of history and institutions, in the study of man in social relation.

Art as a result in educational effort proceeds from the artisan. The accomplishments that belong to the artisan are they that are the birth-right of every child that gets education at public expense. These will help in making a valuable self; these will help in giving self to society. If these are they also from which art proceeds, then do we by teaching them give to every child that which he should get to fit him for future life. He who will have to earn his bread by the use of his hand in mechanical labor and he who will work in higher art producing will be caused to make the right beginning, get the proper start, as well as he who will want only to enjoy culture life. From this point of view the "best short course becomes a part of the best long course," which is the only condition of school courses that justifies free education. The first and chief effort, then, in teaching drawing should be to get good artisan work.

ARITHMETIC.

The subject of arithmetic has caused much careful thought and investigation on the part of the supervising corps for a number of years. Some important and valuable results have been secured thereby.

A first contention is that the teacher must know not only the uses but also the values of number in its relation in the everyday affairs of life. I have believed for years that a cause of some of the trouble in teaching number is due to a lack of knowledge on the part of the teacher, not of the manipulation of numbers, but of the sensible, rational application of numbers to things and vital experiences. He who looks on number with a full appreciation of its true meaning to the affairs of life is very sure to succeed in teaching it well.

The second insistence resulting from this thought and child and class-room study is that the study shall proceed from experience, as is the case with other subjects, and that it shall be related to objects and the affairs of life in its continuance also as much as is reasonable and practicable. In doing this work, relations of quantities are made important consideration at every step. These are seen and expressed numerically by whole numbers, by fractions, and in percentage according to the grades of work, while immediately following, like or corresponding drills are given in abstract numbers. This has seemed to give strength to pupils, which has shown its value in all lines of arithmetical work. By this means it has been possible to correlate the difficult operations of numbers as well as their varied applications in such a way as to cause the child to secure a rational view of number as related to the things and processes of his own experience. The child understands arithmetic, as we believe, largely in proportion to his understanding of things and processes to which it is applied.

A third contention is that the child in the recitation shall be made to do gymnastic work in numbers by being caused to see relations and to express them in tangible symbols and apply these values to correlated subjects, rather than to spend his time during the recitation hour in solving difficult problems. The hard problems, however, are to be solved, but they are to be studied and solved as seat work or home work as a means of showing how well the pupil has profited by the class exercises. The recitation must be restricted to exercises involving rapid changes of conditions requiring small numbers for their expression for the purpose of securing the ability to see accurately and decide promptly. After this kind of work the child is to go to the book and solve the problems therein found. Little or no help should therefore be given to the child in solving problems. This is a test of the child's strength. If it is found that he can not "do the examples," he is trained in the seeing of principles applied in various ways by the use of small numbers and caused to get results as before and then turned to his examples again to hunt his own way out.

A fourth contention is that there shall be frequent reviews by way of cross-section work, tracing principles through the different processes of numbers, and the different applications of numbers to the affairs of life. These reviews are found to be very stimulating and serve admirably as tests by means of which the teacher may find out how he has been teaching.

The time given to arithmetic in our schools has been perceptibly decreased within a few years, but I think I state the testimony of all who have thought anything about the matter that better results are obtained now than were formerly secured.

HISTORY.

History does not properly begin with anecdote. The foundations of history are not laid by filling the mind with interesting stories of great men, or with narratives of important events, disconnected and unrelated. Classification of phenomena in the object world—in nature, for instance—proceeds rationally only from a full supply of facts—specimens—the collecting of which may not unprofitably have been done in a way not orderly, but according to the caprice or opportunity of the collector or the circumstance of varied employments. Classification proceeds from comparison, making accumulated facts—phenomena—necessarily precedent, and if the collecting should lack that order or system which is possible only under intelligent direction, the work of marshaling by likenesses and differences would have a greater educative effect. But history to the beginner is not a study of likeness and difference in the sense above indicated. It is a study of sequence, of cause and result. It is a study of that which has a beginning—a start; is influenced by circumstances; has a continuation and a result—an end—as a school task. It begins, continues, results. It is known and understood by sequences, not likenesses; causes, not differences; results, not conclusions. I mean, of course, history for the beginner, not comparative history. Conclusions in historical research come from comparisons of histories, a work belonging to a period of study when knowledge of histories has been acquired.

Anecdote, story of any kind, is not profitable educationally, unless its relation to sequential events—parts of the whole story under consideration—is seen and understood. Patchwork story is valuable for embellishment or broader views, or for adding interest by variety. Story not sequentially related is but lumber in the mind, occupying place and necessarily attention—effort which is a hindrance rather than an advantage. Unplaced story to the mind not in possession of ideas for its meaning and correct and appropriate adjustment must be harmful; confusion results and memory is dissipated. Scrap work in history before a sequential outline has been fixed in the mind is productive of evil, only evil, and great evil.

Anecdote, story, which is related, is profitable if a sequential outline of essential facts is in mind; it illuminates, throws light into dark places, broadens the view, makes plain that which was obscure, reveals what by some was not seen, and because it does these things it adds

interest to the study. It is an additional tentacle making fast to the mind by a new contact. By it a new conceiving power is felt; obscurities are removed; mental vision is made clearer, and memory is strengthened.

HISTORY LEARNING BEGINS IN EXPERIENCE.

The experience period of history getting should secure for the child a knowledge of persons and events properly related, persons in action, events resulting. The start can be made in the school. History, in which cause and effect are manifest, purposive movements of persons, and resulting facts can be realized in the school and formulated as history. It is history. The city outside the school affords abundant material for enlargement of such work. The District gives splendid opportunity for other units of such work. This is valuable history.

The step that leads to learning cause and effect, as Froude has said, is that of observing the order of things. The order of movements in the society of which the child is a part, movements in which the child or his immediate friends take part, are they which, understood and closely observed, will serve as nuclei for an understanding of greater movements in the history of the state, the nation, and the world. The child can make this history.

First-year pupils may be led to see the difference between the modes of travel today and those of a former time—the way grandfather traveled. This may be accomplished by visits to the Museum, and also by means of pictures in association with vehicles now in use. Comparisons of modes of living, as shown by various means, may be studied for the purpose of establishing the idea of change and improvement, growth, and for getting a start in the habit of looking for the reason.

The history of the new schoolhouse now building will give the kind of study suited to second or third-grade pupils.

It may involve—

(1) The necessity for a new house: Crowded condition of rooms in the present house; the number a room ought to have; the number here found; the distance many have to travel to get to the present house. Other difficulties, if there are any, as railroads or canals or crowded streets to be crossed by some of the pupils.

(2) Petition of citizens for new house; other movements to obtain the house.

(3) The final act of people or legislative power giving house.

(4) The letting of the contract.

(5) The building of the house.

Comparisons may here be made; schoolhouses of today and those of a former period (where father or grandfather went to school).

Histories of other enterprises in the city are as easily realized by the pupils as the foregoing and as easily planned and formulated:

The change of motive power on any of the street-car lines.

The establishment of a new line of street cars.

The buying of additional fire engines.

The history of the city itself may be profitably worked up.

In working out any selected topic, anecdote, detailed description and interesting incident may be introduced.

There are many things transpiring in the community that are important units of history, as the building of the great library, or the moving of the library into its new home, or the establishment of the zoological park. The child has had relations with all of these to a greater or less degree. It is an easy matter to extend these experiences and then to collect results in units of value perfectly identified in sequential correct oral expression and afterwards to have these units written. This is experiencing and writing valuable units of history. This work is comparatively easy for the second, third, and fourth grades of school.

The change of the "one-horse car," with its box in the front end for receiving the fares which the passengers had to deposit, to the "two-horse car" having a conductor to collect fares; the change of this kind of car to the cable car with its great power house and endless chain and its trailers (train of cars), giving rapid transit and thus causing the suburbs to spring into large villages; the change from propulsion by steam to that by electricity with luxurious cars and smoothly paved streets is a unit of history of vital significance to human society. Yet the fourth-grade pupils may understand this, for they have experienced most of it. They may be made to formulate it in the best of English and afterwards to write it. They may become veritable historians. What such units of history and institutional life will be for these children, as interpreting concepts or nuclei for the understanding of like work assigned for the grades just above these to be had from books, it is hard to estimate. Causes, movements, results, within the experience or easily acquired knowledge of the children, worked out and formulated, will lay a foundation for the study of history which will insure its easy and pleasurable acquisition, and will at the same time give intelligent views of movements of society having vital connection with the life of the children, by which views and the strength they will get by securing them they may be able and will be induced to see other movements equally vital to them. The habit of looking for cause and of estimating the consequences of movements taking place about them in society are the most valuable results to be sought in this period of work.

I believe the time and effort now given to the study of history and civil government below the high school will be shortened 50 per cent. at least, when we give the children all the interpreting experiences they ought to get with which to do their work in the use of books in the upper grades. Of course, corresponding advantages will result in the high school. This means much work in the field, the happiest employment in the world for the child.

Last year a monograph giving an account of the last inauguration exercises, and comparing them with the inauguration of Washington,

was made for the fourth-grade pupils. The work involved, in its treatment of the subjects compared, a brief history of the several colonies and a setting of colonial life in comparison with that of today. This was found useful and interesting, yet not too difficult for pupils who have had some training in studying and grouping events of social life in experience and formulating them. It has seemed to me that the first essential in getting history is a thread, holding causes, events, and results in sequence, as a foundation or framework on which to build a superstructure. The monograph served to give such thread-like sequence to colonial history, all of which, however, was seen from the standpoint of experience—knowledge of the inauguration ceremonies last held in our own city.

In upper-grade work we find the children strong enough to get history from at least four authors, studying, of course, topically. Much supplementary work is done in pure literature lines for interest, enrichment, and refinement.

MUSIC.

Music opens a new and broad field of enjoyment, develops emotions of the better kind, and furnishes a standard of comparisons for the other arts. It offers especially a desirable and valuable opportunity or safe channel for the exercise of surplus emotions of the young, and thus may be made to aid in insuring a moral tendency to emotional life. In concerted work it develops a sympathy with others and an appreciation of values in others, and helps in showing the value of correlated effort and the codependence of individuals, however great and valuable each may be in his own line. It affords a means of giving to others enjoyment and of contributing self to social life on a high plane of intellectual activity and influencing power for the refinement of society.

Vocal music is very valuable on the physical side of education in that when properly taught it helps in securing control of the vocal organs and the breathing apparatus and thus adds to the health-giving exercises of the school. It is well known that vocalists develop a healthy physical condition. (Breakdowns come from overwork or wrong, one-sided effort.) Health secured by vocal music is the result of exercise that affects the breathing, of pleasing employment, of changes or variety in effort, and especially of correlated mental and physical effort in the expression of the emotions or feelings.

Vocal music, properly taught, is the best possible psychical preparation for realizing the emotion and the thought requiring expression or adapted to expression by music, and secures the vocal and written expression of the same, from which condition of preparation only is it profitable for instruction in instrumental music to proceed.

BEGINS IN EXPERIENCE.

Music to be used as an acquisition of power and an increasing source of power must proceed from a beginning that comes through experience, as do the other high arts and the economic arts as well. Before the child is given the symbols he must be made to feel and know that he has something worth representing, something that pleases, satisfies him. Then he will have interest in the representation; the interest is personal; it represents himself. He learns to read after he is made conscious of producing something that is worth representing; he then reads the representation.

The association of music with all departments of nature study and all kinds of experiences in society as brought up in school life, as well as with the emotional activities aroused by the use of literature appropriately given in conjunction with all these experiences, gives a charm to much of school work. But music gets more than it gives in the inspiration these contribute to it and particularly in the supply of appropriate art content that is demanded by music as a condition precedent to its learning. While, however, it gets much and that, too, without which it would have no value as an educative, refining power, it is not second in reciprocal values among the arts of our school. The rote songs of the formative period must be selected and given to enrich the experiences the children get and to give cheer to them and add interest to their work. This means that there must be songs on a great variety of subjects. Each song must be appropriate and at the same time must be of intrinsic value, worth learning not alone as a musical production but as a literary setting of truth, under imagination and emotion. These are conditions, the lack of any one of which will rule out the song. Then, too, the body of songs must contain the music elements which, extracted from their respective places and expressed appropriately and united constructively, will make a system of music symbols complete or at least adequate.

By this means are the written forms of music taught as the expressions of experiences, as ordinary reading is taught. These experiences, repeated and enlarged on are the interpreters of new music throughout the course of school life. Much pains has been taken to select music for graded work above the experience period that is of merit for its cultivating effects.

PHYSICAL CULTURE.

A system of physical training has been developed and is now in use in the schools, which extends from the first grade through the high and normal schools.

The bodily employments that are a part of experience getting in the primary schools, and those required in expressing what is learned,

give most valuable physical exercise to the children. These are valuable first, because they are taken in the pursuit of pleasure; second, because they are such as correlate all parts of the physical structure; third, because they are varied, causing emphasis to be changed from one part to another part before fatigue is felt, and fourth, because they alternate by short intervals with seat work, thus compelling the child to get rest by change of the right kind. The element of association and that of cooperation are valuable factors in giving interest, causing the child to take the exercise without knowing its purpose. This kind of exercise is a little more intense, mentally, than play, so games are introduced for recreation for the mind as well as the body. The primary exercises are constructive or creative rather than reformatory or therapeutic.

The diversity of activities throughout all the grades of school below the high school, and especially the primary grades, is such as to insure against bad effects of school work on the eyes.

Some of the exercises in all the grades are made to partake of the nature of entertainment, not only that the mind may get respite from work, but that it may at the same time pursue pleasure with bodily help and thus correlate mind and body in getting rest by change, as they are correlated in doing work for knowledge getting. The single purpose of mind and body in action is that which gives delight and profit to play. The sociality, or mutuality, of the entire mental and physical community is the chief cause of delight in experience both in work and in play. The schoolroom does not afford the most favorable conditions for physical exercises of this character. Much has been done, however, to overcome the difficulties of the situation.

It is important in taking exercises that do not have the play or game element in them that the child shall understand when making each movement why it is done, what it is intended to accomplish. The mind can help very much in the accomplishment of the desired purpose. The mind, interested by knowing, will pursue this purpose at other than the stated times when opportunity offers and will seek opportunity. Thus will the physical training become educative.

Our work above the primary school is largely therapeutic in its character. To make it valuable in this capacity much attention has been given to the study of the needs of the children, not only by groups, to counteract bad effects that may result from the requirements of study-hour employments, but also by individuals, that definite help may be given to specific cases needing it. This feature is especially noticeable in the high-school work. The play feature of our work is being increased each year. Most of the games must be invented to suit the conditions.

The short hours of school, the rests given at intervals for play, and the exercises afforded by the physical-training scheme give enough rest from study, I believe, and do much toward improving the physical condition of the children.

COOKING.

Our plan of cooking is by the group method, in which some of the pupils observe while the others do the work. The first reason for adopting this method is that of economy. It is cheaper to furnish appliances by which the girls can be taught in groups than it is to furnish appliances for individual work in learning. The second reason is because we believe the group method to be better than the individual method, especially in our schools. If the schools were not conducted as they are, giving much experience in the beginnings of all subjects, getting much field work from pupils, it would no doubt be desirable when providing for cooking to make it possible for every child to get definite individual training in each and every process connected with the work. But our children do not need this. They have manual training from the day they enter school in connection with all kinds of work done in the schoolroom. The girls as well as the boys learn to use their hands in clay modeling, in stick laying, in paper cutting, folding, and pasting, in box making, in painting, in drawing, and in a variety of work connected with the materials that are used in the drawing, the study of geography and the study of history not enumerated in the above. Our children are strong enough to get mechanical processes by observation. They have been trained to do this. This is fortunate, for in learning to cook it is better that the children, if they possess the requisite power, shall cooperate in cooking an entire meal or a single item of food sufficient in quantity to serve a small family. It is desirable that they shall rather learn how the work is done in the home kitchen than that they shall learn simply to do things singly, such as making one or two biscuits, or one pancake. We have sought to make the work like that of the model home kitchen. We have brought the home to the school kitchen, and have not, therefore, tried to force a school method contrary to rational, accepted home methods. This is made possible by the general training given to the children, as said before. The economical uses of food materials are taught in this way practically, whereas by the individual mode of teaching the machinery of cooking is taught practically, while the economy of kitchen life must be given theoretically or not given at all, or, more time must be given to this work than is its share. We have chosen the plan of making the economies that correlate with cooking, matters of experience rather than the machinery by detached parts, because our children do not need to get individual training in the various processes, as said before, but do need, as all housekeepers need, experience in providing and arranging for a group of persons, and in providing and arranging groups of dishes for groups of persons, as well as in practical cooperative effort.

SEWING.

The girls of the third, fourth, and fifth grades have a sewing lesson each week of one hour's duration, the special teachers itinerating. The girls of the sixth grade have one lesson a week for an hour and a half in cutting and fitting. They go to centrally located shops for that purpose.

This has been found to be a very useful branch of work. The parents have shown appreciation of and interest in it in many ways. It is so carried on as to make it a link uniting home and school more than is possible with any other branch of work, not excepting that of cooking. The economies of life are here taught; habits of care, order, neatness, and method are inculcated. Economy in the use of materials and the value of mending at the right time, the saving of clothes by "taking a stitch in time" are learned. Learning to sew is but a small part of the benefit of the work. In many ways the girls are taught lessons of economy and thrift that must prove useful to them in life.

As the girls complete their assigned work they, in groups of two or more, contribute small amounts for the purchase of material for one or more garments, and in cooperation make them, to be given to the needy of the city. Hundreds of garments are thus made each year. The girls take much delight in this. Thus do they with their hands in cooperative effort add to their daily happiness and to the relief and happiness of others while working into their own characters that blessed attribute of modern society, unobtrusive charity. The garments are given to orphanages, asylums, and other institutions.

The girls of the sixth grade get in the cutting and fitting shops a training that is as valuable and as useful as do the boys of the seventh grade who go to the wood-working shops.

 THE MORAL TENDENCY OF EDUCATION.

That two impulses, an impulse to know and an impulse to do, characterize the child at an early time of life can be easily seen. Whether one of these is a resultant can not be so easily seen. They appear to be coordinate. When knowing begins, however, self-directed doing begins, for it is a resultant.

The first knowing is of a feeling, physical, selfish. Action, doing for a continuance of this, is the first purposive act. Life would be in danger if this impulse were not stronger than any other, and would not endure. Fortunately the impulse to do is compound, or double at least, selfish and altruistic, impulse to do for self and impulse to do for others. The impulse for expression shows a social principle side by side with the selfish. A hopeful altruism is here manifest. The impulse for self-gratification, nature's scheme for self-preservation, is

probably stronger than the impulse for communication, the altruistic impulse.

The amount of workable knowledge secured depends on the amount of effort put forth in doing to get it. The character of self-directed doing depends, however, on the kind of knowing that is secured. This is determined by opportunity, which in turn may be fixed by the school (authority).

The child will act for self alone or for the help of others to satisfy the demands of his social instinct. This will depend on opportunity. This gives the key to what may be done by effort in education for the developing of a society-helping, a neighbor-loving person. If opportunity is given, the child will by this impulse grow into, or at least toward, this kind of person. If opportunity is not given, he may grow into this kind of person or he may not. Adventitious opportunity may make the right kind of person. It has done so in many instances. If the wrong kind of opportunity exists, he is liable to develop into a selfish person, which means, first, probable ruin to himself, and, second, menace to society. The bad man is primarily a selfish man whose acts for selfish ends, begun in physical feelings, were allowed to continue until they choked out—somewhat as one vegetable growth may choke out another—atrophied the impulse to do altruistic acts. Opportunity was not given or was not used for the evolution and fixing of a moral feeling, which comes by means of the impulse to do for one's neighbor.

Growth in doing and growth in knowing are co related, and hence codependent in the formative period. They make for character conjointly. One builds that which alone can become character; the other directs it; together they make character. It is unsafe to separate growth in knowing and growth in doing and in power to do too early by the use of symbols for knowledge getting as an end. The effect of divorcing thinking from doing is seen in the development of communities more easily perhaps than in individuals. That community in which the work is done by slaves, and in which the thinking classes do not work, does not develop the best condition of social growth. They who do the thinking do not work, while they who do the work do not think. The two must be done by the same set of persons to build the best kind of society. The world's history has shown this.

What is true of society as a whole must no doubt be true of the individual, as the purpose of the development of individuals is the development of society as a whole. The development of society comes by developing the individual.

ANOTHER VIEW OF THE SAME SUBJECT.

The child has interest first in things and processes, for with these he can act. He acts first through pure selfishness, for physical feeling, and for a knowing which is to be realized in physical feeling. Action for the sake of either is at first selfish. Action itself, however, shows

social nature and builds or makes a self, which, directed by self, is character. It shows interest in something besides self. Interest in the other is for self's sake at first, and hence action is selfish at first. But action in social relation brings knowledge of others, and as this becomes great enough it produces purposive action—action self-directed with others in mind. Interest in the other grows with action and knowing. The broader the knowing the more is purposive action directed for the benefit of the other, because enlightened self sees the relation of truth, the good of the whole to self. In the society of truth which directs action in very complex social relations, interest centers in the other (in society), because of its superior influence through social instinct, self is forgotten or neglected, is not first in thought; because also that truth has taught that right action cares for self by caring for the other, the whole.

The child is easily led to give all he has to, or to work with all his might for, one he loves. This may spring in part from a desire to be praised, a love of approbation, and may thus be a selfish impulse in its beginnings, but it is easily converted into true generosity by means of knowledge in application through action. The selfishness, in love of approbation, is carried over or changed to delight in seeing the other (society) benefited, made better. It is then still selfishness, but has been changed into a better kind, by having its purpose changed. This will care for one's neighbor and will build society.

I believe the cultivation of this altruism, the germs of which are inborn, is as surely possible in education by means of the proper condition, doing naturally induced, as is a controlling appetite for spirituous liquor possible and probable by conditions of doing and for similar reasons. Knowledge getting (truth) and action directed by this knowledge in the formative period is then the psychological process of character building, which is the purpose of all education.

The child's mind and character are in large part the reaction of the natural world and the culture world, his physical and institutional environment, in proportion and in the direction also as he is led to understand them. The greater part of this is of the culture kind; especially is this the case in respect to the child of the village or city. But the greatest influencing element surrounding the child is man himself, who has made the culture that helps to develop him. The great work of the life of the child is to understand these three elements that he may share in what they have to give; that he may become bigger and better so that he may cooperate with others in producing better culture.

The grand move of society, the social whole, is altruistic. In how many ways can this be seen? When the city of Chicago was burned, the railways leading to the blackened ground, where but a few hours before were business houses and happy homes, were choked with trains laden with food and clothing which had been sent from all direc-

tions, while countless telegrams bore messages of condolence and offers of help from all quarters of the globe. After that awful night of horror the sun did not rise to light or warm an enemy of the stricken city. Examples need not be multiplied. Yellow fever, cholera, flood, earthquake, cyclone, famine, *causes*, are set over-against by voluntary nurses, hospital stores, medical supplies, money, clothing, food, and human sympathy without stint, *results*.

THE TEACHER'S INFLUENCE.

The child born into the complex society of to-day inherits a strong disposition or tendency to be directed or controlled. His whole line of ancestral transmission has been in this general direction. This general tendency descending to him has by the growth of complexity in society been cumulative. The restraints of society correspond to the privileges or advantages it affords. If educational effort begins early and purposively in directing aright the powers it creates, it can give the tendencies it wishes to give without a forced or undue restraint or by unduly subordinating the will of the learner.

The influence of the teacher who is held in the attitude of a correct and reliable source, for right acts, right doing, on the part of the child, is enormous, as cited elsewhere. By service which he can render the growing mind in giving opportunity sought and in furnishing form for self-expression at the birth of knowledge in all kinds of activities and every degree of endeavor, the teacher becomes a source inducing the highest possible respect, causing unlimited confidence and perfect repose. The teacher can never supplant the love for father and mother; that is of a different nature. Few parents, however, indeed only those who become true teachers, inspire that confidence and perfect trust as authority in knowledge sources that the really successful teacher secures. Occupying this vantage ground, what power for right doing, right living, and right thinking the teacher has!

The teacher works with the pupil; is a coworker. "We seek truth together." "We have one mind, one purpose, truth, the right thing to do." What a power this must be for securing good citizenship, good neighbor making, character building, when it is realized in the doing which builds psychic self! This is a most important element of the child's school life, for the forces of the mind are being made by experience, and while the cooperative work with the teacher in building or making these forces is going on, direction is given to them by that which the teacher suggests. These the child follows with implicit confidence and trust. Thus is the possibility of, or the structure for, character built by action, and thus is direction given to it by instruction or suggestion. At this time and by these means all the outward moral graces belonging to school life form into habits, permanent characteristics of life, punctuality, promptness, courtesy, and many others equally desirable.

If the child is an imitator, what will this continued work of the teacher not do for him in making of him a helper of others, of society? This is, in fact, exactly what is done.

Compare this delightful effect of the teacher on the mind and character of the child when making self with that which proceeds from him when he is a taskmaster, setting lessons to be learned as tasks. The forces within the child are influenced in this case to resist. What is done for him he dislikes. He is thus taught to do for others what they dislike. By virtue of reactionary effort he seeks his own pleasure to counteract the displeasure that others are giving him. Thus are encouraged selfish acts. If by the vigor of rule and the watchfulness of the master these are liable to be detected, then effort becomes secret and a habit of double dealing and false seeming is developed.

What must be the reactionary influence for higher and better living of the social environment of a school or class whose activities are cooperative, involving mutual effort and securing mutual benefit? The work is planned for a purpose; all take part in the planning. Materials are required; all lend a hand in getting them. The materials must be examined; some get one fact, others get other facts, all share in all products. All contribute to the happiness of the teacher by presenting the result they have secured. If the lesson is in the field, at the museum, at the zoological park, interest is increased by virtue of the ride or walk.

Fortunate for the school whose government proceeds from a condition of feeling between pupils and the teacher set forth in the foregoing. Any suggestion for promptness, regularity, quiet, becomes the will of the child. All acts that require the giving up of self for the good of the whole, because self is interested in the whole, feeling itself a part of it, are as cheerfully performed as are exercises for play or recreation. Scores of the schools of Washington know no other government than this, and the number of such is increasing year by year.

Ideals in educational products are reached only through knowledge, the safe standpoint of action; ideals are reached only through the use of knowledge in action; ideals are reached only by the right use of knowledge.

BRIEF RECAPITULATION.

Self is made by getting knowledge in the right way and using it. Character is built by self-activity in the right use of knowledge.

The child is born into the world with two sets of instrumentalities, one set for getting knowledge in helping to make self, the other set for helping in the making of self and for giving self thus made to society. Whatever that self is, good or bad, much or little, is contributed to the social whole to affect it. Thus society has been made.

The eyes and other organs of the senses cooperate with brain in getting knowledge by experience. Thus is begun the building of self. The voice or tongue and hands cooperate with the brain in the use of knowledge thus secured for contributing self to society and for the further building of a self-directed individualism.

The child has no choice; he experiences from his environment, and thus begins to establish a character both intellectual and moral; he must not be allowed to choose environment until he begins to understand values and has established tendencies of the right kind, both in the kinds of knowledge he seeks and in the use he makes of knowledge. If his surroundings are evil, the beginnings of self making will be directed wrong—that is, the self will have a wrong tendency given to it. “As the twig is bent the tree’s inclined.” If the surroundings are right, the beginnings in self-making will be for good. In these underlying principles lies the supreme responsibility of the school. It must cooperate with the best of the social whole, the home, the church, and other social influences to cause experiences that make for character. As his activity in experience builds him in getting his first knowledge, so will power and impulse thus acquired make him continue to act in adding to his knowledge for making a bigger self from the experiences of others, for in these will he have greatest interest by virtue of his own builded self. In other words, from the same channels in which he gains experience and thus builds a self will he continue to build a bigger self; his activities during the period that his mind is making will determine not alone his power to get and the kind of workable knowledge he will try to get, but will also determine in large degree the direction in which such knowledge and power will be used.

If in building a bigger and broader self the child is led to understand the significance of the building and its correct meaning, he will build a self that will make for good both for self and for society. If, then, the State will take hold of its children at an early age before too much self has been made in wrong channels and will wisely arrange for self-activity to satisfy inborn impulse in those channels that make for character and good citizenship, there can be no doubt that it may develop safe and useful citizens. This may be done by making the early activities of the school what they ought to be, for by the right kind of experiences repeated times enough may the child be led to know, to understand, to love, and to do what is right. Character strong to withstand adverse influences may thus be made.

Yours, with high esteem,

W. B. POWELL,
Superintendent of Schools.

THE BOARD OF SCHOOL TRUSTEES.
November 1, 1897.

REPORT OF SUPERVISING PRINCIPALS.

WASHINGTON, D. C., *June 30, 1897.*

DEAR SIR: I have the honor to submit the following report of the supervising principals of the first eight divisions for the year just ended. The usual statistics are given in the accompanying tables.

It is the duty of the supervising principals to carry out in their respective divisions, under your direction, the requirements of the laws governing the schools so far as they relate to the first eight grades, in organization, discipline and instruction.

Attention is called to a few points of interest in the tabular statements.

Table I shows a decrease of 2 schools in the first division and of 1 in the second; an increase of 4 in the third division and of 3 in the fourth; a decrease of 1 in the fifth; an increase of 8 in the sixth, of 5 in the seventh and of 3 in the eighth.

The largest increases are found in the northeastern section of the city and in the suburban schools, these being the portions of the city in which the growth of population is most rapid.

A comparison of the number of schoolrooms with the number of schools discloses the reasons for the facts exhibited in Table III.

The facts shown in Table II differ little from previous reports. Our buildings are uniformly well heated and well lighted, and all the newer eight-room buildings are provided with ventilating systems, which operate, with different degrees of efficiency, under different conditions. Certain tests made by representatives of the health department and of the office of the building inspector, accompanied in some instances by the local supervising principal, showed that in all the eight-room buildings visited the supply of fresh air passing through the cold-air rooms was nearly if not quite up to the requirements, defects, where found, being mainly in the quantity of the outflow of foul air or in an irregularity in the direction of the outflow, not all escaping, as is contemplated, through the floor registers. Some of the older buildings were found to be provided with systems of ventilation only partially operative, but which could be made efficient at a small cost.

Table III shows a total of 153 half-day schools, 84 of which were in the two divisions which include the larger part of East Washington. This number will be materially reduced on the completion of the new building at Fifth and K streets ne., and one already appropriated for

but not begun, in the vicinity of the Peabody school. Table IV shows an increase in the whole enrollment, and a much desired though slight decrease in the number of pupils apportioned to each teacher.

SUPPLIES.

Attention is again called to the necessity of providing some substitute for the primitive method now used for distributing supplies to the various schools from the office of the supervising principal. The quantity of books, stationery, and other materials that is carried monthly to the buildings of each division has grown too large to be safely handled by children. A wagon should be placed at the disposal of each supervising principal one day in each month. Such an arrangement would insure a speedy, accurate, and economical distribution of supplies.

DUTIES OF PRINCIPALS.

Our principals of buildings should not only be better paid, but should have the services of an assistant to relieve them of the care of the schoolroom when engaged in supervisory duties. Our eighth-grade teachers would be very busy people had they nothing to do but prepare a class to meet exacting high-school requirements.

As it is, every moment devoted outside of the schoolroom to sanitation, discipline, or cleanliness is lost to teaching.

Thus, in the course of the year the principal loses many hours that, in the absence of a competent assistant, should be spent with her class. The double task of teaching and supervision thus imposed is an onerous one, in nearly every case discharged with such praiseworthy fidelity as to deserve the reward of adequate pay and at least partial freedom from class duties.

Existing inequalities in the salaries of principals of eight-room buildings, which naturally breed discontent among those affected thereby, should be corrected as soon as the necessary legislation can be obtained.

THE WORK OF THE TEACHERS.

A detailed report of the manner of teaching the various subjects and the progress made therein would differ so little from former reports that it is deemed superfluous. I beg leave instead to present certain characteristics of the work done or aimed at in our schools in the form of general statements.

First. The mother tongue is, as it should be, the central study.

A high authority in the educational world gives as the "six essential constituents of all worthy education" the ability to "see straight and clear, to compare and infer, to make an accurate record, to remember, to express our thought with precision, and to assimilate high ideals." It is evident at a glance how large a part oral and written language play in such a scheme.

The plan pursued in our primary schools, and repeated in every grade, of training the pupils to express in correct English what they see, is in entire accord with the highest educational principles.

Weeks are spent in observing and comparing the commonest facts of the schoolroom and of the world of nature, and expressing these observations and comparisons with precision. As this goes on from week to week, now and then an impatient parent asks why the child is not learning to read, when in fact this is just what he is doing. He is storing up a fund of material of the most varied kind, facts familiar and in relations that have already been perceived and expressed by him with the utmost ease and naturalness, so that when at last the symbol is taught it simply serves, as it were, to recall an old acquaintance in a new garb.

No sooner is this first sentence seen than it is forever associated in the mind of the child with an old and familiar thought, as the expression thereof.

This thought is not born of the symbol, but of having seen the objects of thought in their relations.

The sentence is then read by the child, and finally written from memory.

Thus in the course of a few weeks has the beginner taken in their logical order every step but one in President Eliot's category of the essentials of "all worthy education." He has seen, compared, made accurate mental record, remembered and expressed, and his "assimilation of high ideals" will not be far behind.

What the child does here only in miniature the man does in the university.

Written language, though no truer index of thought, is much more complex and difficult to acquire than verbal expression, as it involves spelling, penmanship, and such other conventionalities of form as punctuation and the use of capitals.

When we consider the vast amount of time and labor required to reach perfection in these conventionalities, it is not surprising that the teacher has sometimes felt compelled to sacrifice form to content and structure in view of the surpassing importance of the latter.

There may have been a time in our schools when, under the shock of a new realization of the great disproportion in value between the idea and the symbol, the teacher has temporarily so undervalued the symbol as to neglect spelling; but that is not true to-day. There are more and better aids to the teaching of spelling in use now than ever before. For example, every pupil from the fourth grade up has access to a standard dictionary which is always at his elbow or on his neighbor's desk. Technical word analysis is begun in the fifth grade and continued in every higher grade to the high school.

The writing of compositions has long ago ceased to be a formal monthly task on an abstract subject, and has become a daily exercise in

which correct verbal expression precedes writing and the pupil writes about what he knows. Early in the grades a distinction is drawn between description and narration. But something more is desired than the precise expression of the child's everyday thoughts, and to supply this need the whole world of literature is at hand to suggest models of style, to give wings to the imagination, to cultivate a true taste, and to store the memory.

When our pupils have attained a mastery of the common forms of expression, specific use is made of the best literature in all grades. Poems and stories, memorized or reproduced by the pupil, constitute the child's introduction to the world's literature in the lower grades.

In the sixth grade Longfellow's *Evangeline* and Miles Standish are studied, in the seventh grade various masterpieces contained in the reader, and in the eighth grade Irving's *Legend of Sleepy Hollow* and Whittier's *Snowbound*.

The compositions presented for exhibition at the end of the school year gave evidence of the good results of this work in literature. There was much more imaginative writing to be found, and throughout the higher grades more of those embellishments which have their source in a familiarity with models of good literature.

Second. The individual is not wholly lost or neglected in the mass.

The two stock objections to graded schools are: First. There is no choice of studies; every pupil must swallow the whole curriculum regardless of his natural aptitudes. Second. Every pupil, whether talented or dull, is carried forward at the same pace.

We meet the first objection by providing elective courses in the ninth school year; that is, in the high school.

There is no real demand for elective courses in primary and grammar schools, for the branches pursued are now generally conceded to be essential to the development of the child; but at a point where subjects of study become isolated and specialized a uniform course for all would not be tolerated.

The parent of a quarter of a century ago made no end of trouble for the teacher by insisting that his boy had no talent for music and drawing, and never could learn them. Today protests against these subjects, then new but now established in public favor, are seldom heard. Equally rare is a request from a parent for the omission of any study on the ground of the learner's inaptitude.

The second objection is a more serious one, for it is true that the graded school makes no provision for adapting the studies to the respective abilities of the pupils or more rapidly promoting those who excel.

But we claim to have ameliorated the severe operation of this system in our schools by as close an approximation to the teaching of individuals as is possible.

The first step in the cure of the evil under discussion is the reduction of the number of pupils committed to a single teacher. Within

twenty years there has been a marked diminution in the number of pupils per teacher, and yet under the most favorable conditions it seems unreasonable to expect more than the most meager results from the attempt of one teacher to "educate" collectively, in the comprehensive modern sense, as many as forty-five children, which is now about the average number found in our schools.

In such a school the greatest allowance of time that could be given to an individual, if an equal division of time were made, would be less than seven minutes a day.

It is small wonder that the graded-school teacher of other days, with a school of sixty, fell into the way of conducting most of her recitations in concert. What else could she do?

Not the least of the benefits derived from the introduction of manual training and cooking, and one that was not contemplated, lies in the fact that the absence of one half of the school at shop gives the teacher a chance to get acquainted with the other half.

It would appear that this line of reasoning must drive us to the conclusion that the ideal school is that with but a single pupil. But this is not so, for up to a certain limit there are advantages in numbers. Children designed for citizenship and society can not profitably be isolated from their fellows at any period of life. This principle is recognized in kindergarten instruction. Yet there is a point where the teacher's influence becomes so diluted by numbers as to be ineffective. To teach the individual, the teacher must know the individual, and there is small hope of achieving such a knowledge in a half-day school of forty-five pupils. With smaller classes opportunity would be given to study the child and direct his activities with deliberation. It would then be possible to carry forward the talented pupil in spite of grade limitations, and lend a hand to the laggard. In short, the cure for the apparently irremediable defect in the graded school lies in making it possible to teach pupils as individuals.

It may be said here by way of parenthesis that no hard and fast rule of grading or promotion has ever prevailed in our schools that would prevent a pupil from advancing whenever his progress justified it. In fact few pupils ever make such phenomenal advancement as to warrant their passing over the work of an entire year and attempting the grade in advance of their own.

There is much exaggeration in statements commonly made as to the holding back of bright pupils. The apportionment of the amount of work that can or ought to be done in a year in a subject of study, duly coordinated with other subjects placed in a course designed to develop the whole child, was not hit upon in a day. It is the aggregated experience of a race of schoolmasters, and is subject to the laws of mental development.

Any radical departure from these traditional study courses must be defended on philosophical grounds.

Accommodating ourselves, then, to existing conditions, in our endeavor to reach the individual, we first seek to reduce the number of pupils to be taught by one teacher to what it ought to be. But this is necessarily a slow process, as it involves a question of expense. It has been the work of decades to bring an average number of pupils down from fifty to forty-five, and unless the legislator can be brought over to the point of view of the educator, other decades will yet elapse before the desired maximum is realized.

Confronting the conditions as we find them, be the school large or small, we divide it into two or three sections, grouping the pupils according to their various capacities. The teacher is seldom or never engaged with the whole class. One-half are in active recitation while the remainder are busy at their desks, either in preparation or in making practical applications of principles already developed.

In the first grade the teacher is handling at one time only about one-third of her class—about sixteen pupils; in other grades, from twenty to twenty-five.

The result is that the instruction is adjusted more exactly to the needs of individuals. Larger tasks are assigned to the strong in the nature of supplementary work of a more advanced character. In like manner the deficiencies of the less apt pupils are discovered and provision made therefor in assigning lessons, so that they may no longer be placed in hopeless competition with their more capable fellows.

It is a pleasure to be able to say that in every primary and grammar school in this District under your supervision an honest attempt is made, after the fashion described, to break away from the machine-like spirit of the graded school, with degrees of success measured by the enthusiasm and intelligence of the teacher.

Third. There is a rational unification of studies.

There is a unification of studies, much written about, which is artificial and absurd.

There is another which is not a modern invention, but which has been practiced by the best teachers from the beginning.

The latter perceives the just kinship of one subject to another, correlates the two in teaching, and becomes an economy of time and effort. What good teacher has ever failed to properly associate history and geography, or arithmetic and algebra, or to make all tributary to the study of English?

Yet it is possible to apply this principle so unwisely as to make its use fatal to concentration, diverting the mind of the pupil from the point at issue and leaving with him no well-defined notions of subjects themselves, much less of their relationships.

To classify all knowledge into appropriate groups, using one group to illuminate another, or to cause related subjects in the same group to mutually interpret and embellish one another, requires exact scholarship and a trained power of selection.

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To classify all knowledge into appropriate groups, using one group to illuminate another, or to cause related subjects in the same group to mutually interpret and embellish one another, requires exact scholarship and a trained power of selection.

Few, if any, of our teachers are lacking in a clearly defined purpose when presenting an isolated lesson.

A broader conception than this sees the end from the beginning in the treatment of a given study through a whole year's work. Now, when the horizon of the thoughtful teacher widens until there is comprehended within her purpose the relation of the study in hand to other studies in the course, her work from this time on is done from a higher plane than before. With the dawn of this new intelligence comes the obligation to make a fuller preparation for the work of the class room. She must glean through many fields, gathering only that material which she can use to advantage, and taxing all the resources of her art to find a way by which she can lead her class up to the high eminence which she has reached.

It is not the province of this report to discuss abstract principles of education except so far as they are exemplified in the practice of our schools. In this instance I am warranted in saying that no feature of our schools is more marked than the growing tendency toward a rational synthesis or unification of studies.

The best examples of this are of course found in the primary schools, where in fact there is little or no isolation of subjects. The methods of our primary instruction in this particular are too well known to need description here. Few seriously doubt the wisdom of such a blending of subjects in the lowest grades. The problem increases in difficulty as subjects of study multiply in number and complexity in the higher grades.

A fair sample of the manner in which a practical unifying of studies may be accomplished is found in the use of "Our Continent" in the seventh grade, which during a portion of the year furnishes materials for a simultaneous study of geography, history, and language (composition, spelling, and reading). Such a union of studies as is made possible in this instance is valuable to the pupil in enabling him to see various branches of human knowledge as parts of a great whole, so that when he turns again to the pursuit of one or more of them as isolated subjects, as he must, they mean more to him than they would otherwise have meant.

It is limited in its application, is suggestive rather than exhaustive, can not be a substitute for the independent study of a subject, and therefore ceases in part where specialization begins.

It finds its parallel in such a system of muscular training as will, by developing each set of muscles with due regard to all others, so build up the whole physical man as to make the extraordinary development of any desired part thereof an easy task.

But as the equal and symmetrical exercise of every series of muscles with a view to general bodily strength will not of itself make a deft penman or a skilled swordsman, so the synthetic study of all subjects will not, without specialization, give a full mastery of any one of them.

This fact does not detract from the value in education of the sort of unification described, as it is equally true that the best attainments in the independent study of a subject imply a prior view of it in its larger relations.

Fourth. Our teachers are making commendable efforts to broaden the scope of their teaching.

The organization is so centralized as to enable the superintendent to communicate promptly with the entire teaching corps through the supervisors and special teachers and by means of grade meetings. The teaching is therefore a unit, but not in the bad sense of dead uniformity. It is a unity of principles rather than of methods. There is no inflexible law of methods to be followed.

The constant effort of the superintendent is to educate the teachers to a comprehension of the principles which underlie their instruction, leaving to their experience and skill the application thereof. The best teachers everywhere possess the art of imparting instruction to a class in so high a degree that when a superintendent is convinced of their mastery of the true principles of education he is prepared to dismiss anxiety as to their success in getting results.

The two questions which concern the teacher are now, as they have ever been, "What shall I teach?" and "How?"

The first is usually answered for her by superintendents and boards of education, so that her relation to the course of study is a fixed one. Not so in regard to her relation to the child. This she must largely determine for herself. Her freedom in this respect is measured by her fitness to make good use of it. She who is known to be a thinker and a student of educational questions is trusted more than her neighbor. Superficial knowledge is the parent of much poor teaching. Now that our normal school has a two-years' course it ought to turn out better scholars, as a portion of the additional year is to be given to perfecting the pupils in the ordinary English branches.

We do not read the educational papers as we should. We do not participate formally, as might be profitable, in discussing current educational questions. Our teachers should know all about the new movement in the direction of child study, and be familiar with the reasons which have inspired the cry for individual teaching and other matters of like moment. But there are signs of awakening. The pedagogical library is extending its influence and the professional magazines and papers on its tables are not without earnest readers.

If a teacher's excellence lay in intelligence, loyalty, hard work, and good intentions we would have the best corps of instructors to be found anywhere. No sacrifice of time or nervous force is too great for them in their determination to reach a coveted standard.

When such splendid zeal as this shall be yoked with a scholarly purpose, public-school instruction will be exempt from much criticism that is now justly bestowed. Washington affords peculiar opportunities for

self-improvement. It is fortunate that where so few teachers have had college training we are located in the midst of institutions whose educative value is so great.

There is no Department or bureau of the General Government that has not been a willing contributor to the better equipment of our teachers, and consequently a useful factor in the training of the pupils. The scientific bureaus especially are constantly laid under tribute for facts and illustrations for use in the class room. Courtesies without number have been received from the official heads of these bureaus.

Even pupils on errands of investigation have been cordially met and patiently answered. Visits of teachers with schools or parts of schools to the National Museum, the Smithsonian Institution, or the Congressional Library are of almost daily occurrence. Then there are outings for the study of flowers, birds, and insects in their appropriate seasons, and of hills, valleys, and various natural features, while the deep cuts through suburban hills afford rare opportunities to see exposures of strata of rocks for purposes of study.

An eighth-grade teacher reported that in her school were a number of pupils, native to the capital city, and students of the text of Fiske's Civil Government, who had never visited the interior of the Capitol, though living within half-a mile thereof. They talked glibly enough of the legislative department of the Government, but had no notion of it in the concrete. Surely the most extreme champion of the text-book would deplore such a deficiency, and would think it right to supply what was lacking in their experience by taking or sending them forthwith to the halls of Congress.

A certain gravel bank in the vicinity of a city schoolhouse was found by the independent investigations of seventh-grade pupils to be a bed of fossils. Other schools have since made pilgrimages thereto, and it has proven to be a very mine of interest and instruction.

During the past year the superb Library of Congress has been the Mecca of hundreds of schools who went there with the definite purpose of studying its architecture, decorations, and historic inscriptions.

The western terrace of the Capitol is the favorite eminence from which our beginners in geography first view the beauties of the Washington amphitheater, while the steep slopes of Rock Creek valley furnish striking examples to them of the changes that are constantly occurring in the face of nature through the agency of water.

During the past year the teachers, accompanied by their respective schools or sections thereof, made about thirteen hundred different field trips.

A report of field work in detail would be of value as showing, not so much measurable results as the intelligent breadth of purpose which animates our teachers. But there is much to learn in this direction. A careful study of the whole subject of field work with a view of securing results that shall compensate for the loss of time from the school-room should be made.

It is worth a great deal to any community to possess a corps of teachers who are really enthusiastic in seeking such opportunities to illustrate and broaden their teaching as are afforded by excursions of the character described. But such excursions to be a good investment must be planned carefully with a view of teaching a definite lesson.

We have no right to take school time for mere sight-seeing. There is little danger of this, however, for the teacher is not likely to choose an excursion with her school as a form of pleasure seeking.

It is admitted that the best educational result of such work as is done outside of the schoolroom and with novel environments is the stimulation of the child's activities in new directions and the consequent awakening of the spirit of investigation.

Yet these activities must have guidance as well as stimulation, and it is poor work on the teacher's part to awaken activities that she can not or will not direct. Field work, in which term is included all teaching done beyond the pale of the schoolroom, requires more careful preparation than the work of the class. It goes without saying that the object to be studied, whether a natural feature, a public institution, or a collection in a museum ought to be a familiar one to the teacher, made so, if necessary, by repeated visits on her own account, and that the proposed lesson should be fully outlined. If this be not done while the lesson can not be a total loss because of the new experiences obtained by the pupil, the net results will be a series of confused and ill-assorted mental images. A well-taught lesson in the schoolroom is preferable to a haphazard piece of field work.

The superintendent has for years urged the importance of this line of collateral teaching, until the teachers now, with few exceptions, accept it as a necessary corollary of what is done within doors, and show their sincerity by undertaking, because they believe in it, that which was at first reluctantly attempted only from a sense of duty.

Thanking you on behalf of my colleagues and myself for courtesies extended in our official and personal relations, I am,

Very respectfully,

A. T. STUART.

Mr. W. B. POWELL,
Superintendent of Schools.

FIRST DIVISION.

TABLE I.—Showing location of buildings and distribution of schools, by buildings.

School and location.	Eighth grade.	Seventh grade.	Sixth grade.	Fifth grade.	Fourth grade.	Third grade.	Second grade.	First grade.	Total.	School-rooms.	Number of teachers.
Franklin, Thirteenth and K streets nw.....	2	2	2	2	1	1 3-2	1	2	14	¹ 15	² 14
Dennison, S street nw., between Thirteenth and Fourteenth streets.....	2	2	1	1	1	1	1	2	11	¹ 12	² 11
Force, Massachusetts avenue, between Seventeenth and Eighteenth streets nw.....	2	2	2	1 5-4	1	1	1	1	12	³ 12	12
Adams, R street, between Seventeenth and Eighteenth streets nw.....	1	1	1	1	1	1	1	1	8	8	8
Berret, Fourteenth and Q streets nw.....	1	1	1	1	1	1	1	1	8	9	8
Harrison, Thirteenth street, between V and W streets nw.....		1	2	1	1	1	1	1	8	8	8
Phelps, Vermont avenue, between T and U streets nw.....	1			1	1	2	2	2	9	8	9
Thomson, Twelfth street, between K and L streets nw.....					1				1	⁴ 6	1
Whole number of schools:											
1897.....	9	9	9	9	8	9	8	10	71	78	71
1896.....	9	9	9	10	8	9	9	10	73	78	73

¹ Including 1 room used by normal school.² Five teachers from normal school.³ Including 1 room used for cooking school.⁴ Including 2 rooms used for manual training and 1 room used for cooking school.

TABLE II.—Showing condition of buildings.

Building.	How heated.	Light.	Ventilation.	Water-closets.	Play rooms.	Yards.	Owned or rented.
Franklin.....	Steam.....	Excellent.	Good.....	Good.....	Excellent.	Small.....	Owned.
Thomson.....	Furnace.....	Good.....	Fair.....	.....do.....	Fair.....	.....do.....	Do.
Adams.....	.....do.....	Excellent.	Excellent.	Excellent.	Excellent.	Excellent.	Do.
Dennison.....	Steam.....	.....do.....	.....do.....	.....do.....	.....do.....	.....do.....	Do.
Force.....	.....do.....	.....do.....	Good.....	Good.....	.....do.....	.....do.....	Do.
Harrison.....	Furnace.....	.....do.....	Excellent.	Excellent.	.....do.....	.....do.....	Do.
Phelps.....	.....do.....	.....do.....	.....do.....	.....do.....	.....do.....	.....do.....	Do.
Berret.....	.....do.....	.....do.....	.....do.....	.....do.....	.....do.....	.....do.....	Do.

TABLE III.—Showing half-day schools.

School.	Half-day schools.		Grades of half-day schools, 1897.
	1897.	1896.	
Force.....	2	4	1, 2
Phelps.....	2	2	1
Total.....	4	6	.....

TABLE IV.—*Showing distribution of pupils by grades, attendance, and average number per teacher.*

Grade.	Number of schools.		Whole enrollment.		Average enrollment.		Average daily attendance.		Average number of pupils per teacher.	
	1897.	1896.	1897.	1896.	1897.	1896.	1897.	1896.	Based on whole enrollment.	Based on average enrollment.
Eighth	9	9	387	408	340	326	318	300	43	37.7
Seventh	9	9	413	413	351	342	327	318	45.8	39
Sixth	9	9	401	407	347	343	317	314	45.6	38.5
Fifth	9	10	448	434	364	367	338	341	39.7	40.4
Fourth	8	8	327	378	299	322	282	295	40.8	37.3
Third	9	9	384	398	312	284	287	299	42.6	34.6
Second	8	9	367	347	293	303	271	275	45.8	36.6
First	10	10	495	483	351	356	314	318	49.5	35.1
Total	71	73	3,222	3,268	2,657	2,643	2,454	2,460	45.3	37.4

TABLE V.—*Showing percentage of attendance, cases of tardiness of pupils, and absence and tardiness of teachers.*

Month.	Percentage of attendance.	Tardiness of teachers.	Cases of tardiness.		Substitute service.	
			1897.	1896.	1897.	1896.
September	97.2	3	104	102	4	3.5
October	95.9	8	416	430	20	12
November	92.3	9	395	397	37	3.5
December	91.9	13	453	325	10.5	10.5
January	89.5	20	677	747	33	35
February	90.7	10	496	661	36	15.5
March	91.7	9	555	430	15.5	16
April	92.1	12	636	446	20	45.5
May	91.4	10	558	474	24.5	23.5
June	92.3	9	313	212	33	9
Total		103	4,603	4,004	233.5	174

TABLE VI.—*Showing the number of graduates from the Washington Normal School, from other normal schools, from colleges, and nongraduates.*

Washington Normal School	53
Other normal schools	4
Colleges	2
Nongraduates	8
Total	¹ 67

¹ Including six normal school practice teachers.

SECOND DIVISION.

TABLE I.—*Showing location of buildings and distribution of schools, by buildings.*

School and location	Eighth grade.	Seventh grade.	Sixth grade.	Fifth grade.	Fourth grade.	Third grade.	Second grade.	First grade.	Total.	Schoolrooms.	Number of teachers.
Abbot, corner Sixth street and New York avenue n.w.	1	1	1	1	1	1	1	1	8	9	8
Seaton, I street n.w., between Second and Third streets	2	2	1	1	2	1	1	1	11	12	11
Twining, Third street n.w., between N and O streets.	1	1	1	1	1	1	1	2	9	8	9
Morse, R street n.w., between Fifth street and New Jersey avenue	1			2	2	2	2	2	11	8	11
Henry, P street n.w., between Sixth and Seventh streets	1	3	2	1	1	2	3		13	12	13
Polk, corner Seventh and P streets n.w.	1	1	2	1	1			3	9	8	9
Webster, corner Tenth and H streets n.w.	1	1	2	2	2	2	2	2	14	12	14
Whole number of schools:											
1897	8	9	9	9	10	9	10	11	75	69	75
1898	8	9	10	9	9	10	10	11	76	69	76

* One room used for cooking school.

TABLE II.—*Showing condition of buildings.*

Building.	How heated.	Light.	Ventilation.	Water-closets.	Play rooms.	Yards.	Owned or rented.
Abbot	Furnace	Good	Excellent	Excellent	None	None	Owned.
Seaton	Steam	Excellent	Fair	do	Excellent	Good	Do.
Twining	Furnace	do	Excellent	do	do	Excellent	Do.
Morse	do	do	do	do	do	do	Do.
Henry	Steam	do	Poor	Poor	Small	do	Do.
Polk	Furnace	do	Excellent	Excellent	do	Good	Do.
Webster	Steam	do	Fair	do	do	None	Do.

TABLE III.—*Showing half-day schools.*

Building.	Half-day schools.		Grades of half-day schools.		Number above second grade.
	1897.	1898.	1897.	1898.	
Abbot					
Seaton					
Twining					
Morse	2	2	1, 1		
Henry	6	6	1, 1, 2, 2, 3, 3		2
Polk	2	2	2, 2		
Webster	2	4	1, 1		
Total	4	4	1, 1, 2, 2		
	16	18			2

TABLE IV.—*Showing distribution of pupils by grades, attendance, and average number per teacher.*

Grade.	Number of schools.		Whole enrollment.		Average enrollment.		Average daily attendance.		Average number of pupils per teacher.	
	1897.	1896.	1897.	1896.	1897.	1896.	1897.	1896.	Based on whole enrollment.	Based on average enrollment.
Eighth	8	8	343	338	285	285	271	269	42.8	35.6
Seventh	9	9	437	429	377	362	354	343	48.5	47.6
Sixth	9	10	412	483	353	405	331	374	45.7	39.2
Fifth	9	9	489	417	430	361	400	339	54.3	47.7
Fourth	10	9	482	456	423	411	397	386	48.2	42.3
Third	9	10	422	462	376	394	355	369	47	41.7
Second	10	10	455	441	415	382	384	351	45.5	41.5
First	11	11	598	575	447	443	412	402	54.3	40.6
Total	75	76	3,638	3,601	3,106	3,043	2,904	2,833	48.5	41.4

TABLE V.—*Showing percentage of attendance, cases of tardiness of pupils, and absence and tardiness of teachers.*

Month.	Percentage of attendance, 1897.	Tardiness of teachers, 1897.	Cases of tardiness.		Substitute service.	
			1897.	1896.	1897.	1896.
September	97.1	1	85	49	8.5	10
October	96.1	4	391	409	31.5	33.5
November	94.8	4	357	337	56	13
December	93.5	7	327	358	47	16
January	90.1	18	536	480	71	39.5
February	91.6	7	336	376	54.5	25
March	92.5	9	417	356	65.5	54
April	93	8	396	357	68.5	55
May	92.2	8	413	366	28.5	41
June	93.9	15	270	146	60.5	19.5
Total		81	3,528	3,234	491.5	306.5

TABLE VI.—*Showing the number of graduates from the Washington Normal School, from other normal schools, from colleges, and nongraduates.*

Washington Normal School	55
Other normal schools	5
Colleges	0
Nongraduates	15
Total	75

THIRD DIVISION.

TABLE I.—*Showing location of buildings and distribution of schools, by buildings.*

School and location.	Eighth grade.	Seventh grade.	Sixth grade.	Fifth grade.	Fourth grade.	Third grade.	Second grade.	First grade.	Total.	Schoolrooms.	Number of teachers.
Peabody, Fifth and C streets ne.....	2	2	3	2	3	3	2	2	19	12	19
Carbery, Fifth street between D and E streets ne....	1	1	1	1	1	1	2	2	10	8	10
Maury, B street between Twelfth and Thirteenth streets ne.....	1	1	1	1	1	1	2	2	10	8	10
Towers, Eighth and C streets se.....	1	1	1	1	1	1	3	3	12	8	12
Wallach, D street between Seventh and Eighth streets se.....	1	2	3	2	2	1	.....	11	10	11	11
Brent, Third and D streets se.....	1	1	1	2	2	2	1	2	12	8	12
Lenox, Fifth street between G street and Virginia avenue se.....	1	1	1	2	1	2	1	2	11	8	11
McCormick, Third street between M and N streets se.....	.....	.....	.....	.....	1	2	1	2	6	4	6
Total number of schools:											
1897.....	8	9	11	11	12	13	12	15	91	68	91
1896.....	8	9	10	11	10	12	12	15	87	68	87

¹ One room used as a cooking school.TABLE II.—*Showing condition of buildings.*

Building.	How heated.	Light.	Ventilation.	Water-closets.	Play rooms.	Yards.	Owned or rented.
Peabody.....	Steam.....	Excellent.	Excellent.	Excellent.	Good.....	Small.....	Owned.
Carbery.....	Furnaces.....	do.....	do.....	do.....	Excellent.....	do.....	Do.
Maury.....	do.....	do.....	Poor.....	Good.....	do.....	Good.....	Do.
Towers.....	do.....	do.....	Excellent.	Excellent.	do.....	Ample.....	Do.
Wallach.....	Steam.....	do.....	None.....	do.....	do.....	do.....	Do.
Brent.....	Furnaces.....	do.....	Poor.....	Fair.....	do.....	Small.....	Do.
Lenox.....	do.....	do.....	Excellent.	Excellent.	do.....	do.....	Do.
McCormick.....	do.....	do.....	do.....	do.....	None.....	Ample.....	Do.

NOTE.—In Carbery and Towers, boys' play rooms are used as coal vaults.

TABLE III.—*Showing half-day schools.*

School.	Half-day schools.		Grades of half-day schools.	Number above second grade.	
	1897.	1896.		1897.	1896.
Peabody.....	6	6	1, 1, 2, 2, 3, 3	2	2
Carbery.....	4	4	1, 1, 2, 2	.....	.....
Maury.....	4	4	1, 1, 2, 2	.....	.....
Towers.....	8	6	1, 1, 1, 2, 2, 2, 3, 4	2	1
Wallach.....	4	0	3, 4, 4, 5	4	0
Brent.....	8	6	1, 1, 2, 3, 3, 4, 4, 5	5	3
Lenox.....	6	6	1, 1, 2, 3, 3, 4	3	2
McCormick.....	4	4	1, 1, 2, 3	1	1
Total.....	44	36	.....	17	9

TABLE IV.—*Showing distribution of pupils by grades, attendance, and average number per teacher.*

Grade.	Number of schools.		Whole enrollment.		Average enrollment.		Average daily attendance.		Average number of pupils per teacher.	
	1897.	1896.	1897.	1896.	1897.	1896.	1897.	1896.	Based on whole enrollment.	Based on average enrollment.
Eighth	8	8	379	370	333	314	315	294	47.3	41.5
Seventh	9	9	397	412	352	361	336	343	44.1	39.1
Sixth	11	10	500	464	449	409	421	385	45.5	40.8
Fifth	11	11	559	552	500	478	466	413	50.8	45.4
Fourth	12	10	595	523	526	475	492	444	49.5	43.8
Third	13	12	674	629	586	562	544	528	51.8	45
Second	12	12	541	543	474	474	442	461	45.1	39.5
First	15	15	706	772	538	588	492	535	47	34.8
Total	91	87	4,351	4,265	3,758	3,661	3,508	3,403	.....	.....

TABLE V.—*Showing percentage of attendance, cases of tardiness of pupils, and absence and tardiness of teachers.*

Month.	Percentage of attendance.	Tardiness of teachers.	Cases of tardiness.		Substitute service.	
			1897.	1896.	1897.	1896.
September	97.4	2	39	15	2	11
October	95.6	4	184	212	46	37
November	93.3	4	174	133	73.5	24
December	93.5	14	194	187	15	30
January	90.4	15	296	226	98	82
February	92.2	9	153	176	49.5	95
March	93	14	191	174	69.5	62.5
April	93.4	7	175	161	61.5	67.5
May	92.2	6	183	180	54.5	46
June	94.1	2	115	70	54	30
Total .....	.....	77	1,704	1,534	523.5	485

TABLE VI.—*Showing the number of graduates from the Washington Normal School, from other normal schools, from colleges, and nongraduates.*

Washington Normal School	71
Other normal schools	2
Colleges	1
Nongraduates	17
Total	91

FOURTH DIVISION.

TABLE I.—*Showing location of buildings and distribution of schools, by buildings.*

School and location.	Eighth grade.	Seventh grade.	Sixth grade.	Fifth grade.	Fourth grade.	Third grade.	Second grade.	First grade.	Total.	Schoolrooms.	Number of teachers.
Jefferson, Sixth and D streets sw.....	2	2	3	3	2	2	2	2	18	19	18
Amidon, Sixth and F streets sw.....	.....	.....	1	1	1	1	2	2	8	8	8
Bradley, Thirteen-and-a-half street, between C and D streets sw.....	1	1	1	1	1	1	1	2	9	8	9
Smallwood, I street, between Third and Four-and-a-half streets sw.....	1	1	1	1	1	2	1	1	9	8	9
Greenleaf, Four-and-a-half street, between M and N streets sw.....	.....	1	1	1	1	1	2	4	11	8	11
Potomac, Twelfth street, between Maryland avenue and E street sw.....	.....	.....	.....	.....	1	1	1	1	4	3	4
Total number of schools:											
1897.....	4	5	7	7	7	8	9	12	59	54	59
1896.....	4	4	7	7	7	7	9	11	56	50	56

TABLE II.—*Showing condition of buildings.*

School.	How heated.	Light.	Ventilation.	Water-closets.	Playrooms.	Yards.	Owned or rented.
Jefferson.....	Steam....	Excellent.	Fair.....	Excellent.	Excellent.	Excellent.	Owned.
Amidon.....	Furnace..	.....do....	Excellent.	.....do....	.....do....	Small.....	Do.
Bradley.....	.....do....	.....do....	.....do....	Fair.....	Small.....	.....do....	Do.
Smallwood.....	.....do....	.....do....	.....do....	.....do....	.....do....	.....do....	Do.
Greenleaf.....	.....do....	.....do....	.....do....	Excellent.	.....do....	.....do....	Do.
Potomac.....	Stoves....	.....do....	Fair.....	Poor.....	None.....	.....do....	Do.

TABLE III.—*Showing half-day schools.*

School.	Half-day schools.		Grades of half-day schools.
	1897.	1896.	
Jefferson.....	.....	2	.....
Amidon.....	.....	8	.....
Smallwood.....	2	8	1, 2
Bradley.....	2	2	1, 1
Greenleaf.....	6	.....	1, 1, 1, 1, 2, 2
Potomac.....	2	2	1, 2
Total.....	12	22	.....

TABLE IV.—*Showing distribution of pupils by grades, attendance, and average, per teacher.*

Grade.	Number of schools.		Whole enrollment.		Average enrollment.		Average daily attendance.		Average number of pupils per teacher.	
	1897.	1896.	1897.	1896.	1897.	1896.	1897.	1896.	Based on whole enrollment.	Based on average enrollment.
Eighth	4	4	184	196	162	161	156	153	46	40
Seventh	5	4	206	200	184	175	175	164	41	37
Sixth	7	7	307	331	256	273	239	252	43.8	36.5
Fifth	7	7	349	339	309	300	290	279	49.8	44.1
Fourth	7	7	351	355	312	314	294	291	50	44.5
Third	8	7	408	392	359	344	334	319	51	44.8
Second	9	9	413	366	367	352	345	311	45.8	40.7
First	12	11	679	587	542	452	493	411	56.5	45.1
Total	59	56	2,897	2,766	2,491	2,371	2,326	2,180	49.1	42.2

TABLE V.—*Showing percentage of attendance, cases of tardiness of pupils, and absence and tardiness of teachers.*

Month.	Percentage of attendance.	Tardiness of teachers.	Cases of tardiness.		Substitute service.	
			1897.	1896.	1897.	1896.
September	97.2	.....	57	21	5.5	.....
October	95.5	5	266	264	45.5	30
November	94.5	8	203	192	70	46.5
December	93.6	4	250	267	51.5	23
January	90.2	7	347	274	42.5	64
February	92.1	11	189	260	28	25.5
March	92.9	6	257	191	46.5	34
April	93	4	267	151	47	31
May	92.9	6	213	170	38	22.5
June	93.2	4	154	92	9	18.5
Total .....	.....	55	2,203	1,882	383.5	295

TABLE VI.—*Showing the number of graduates from the Washington Normal School, from other normal schools, from colleges, and nongraduates.*

Washington Normal School	32
Other normal schools	9
Colleges	3
Nongraduates	15
Total	59

FIFTH DIVISION.

TABLE I.—Showing location of buildings and distribution of schools, by buildings.

School.	Eighth grade.	Seventh grade.	Sixth grade.	Fifth grade.	Fourth grade.	Third grade.	Second grade.	First grade.	Total.	Schoolrooms.	Number of teachers.
Jackson, U street, between Thirtieth and Thirty-first streets nw.....	2	1	2	2	1	.....	.....	.....	8	8	8
Grant, G street, between Twenty-first and Twenty-second streets nw.....	1	2	2	2	2	2	2	3	16	14	16
Addison, P street, between Thirty-second and Thirty-third streets nw.....	1	1	1	2	1	1	1	1	9	8	9
Fillmore, Thirty-fifth street, between U and V streets nw.....	1	1	1	1	1	1	1	1	8	8	8
Weightman, Twenty-third and M streets nw.....	1	1	1	1	1	1	2	2	10	8	10
Corcoran, Twenty-eighth street, between M street and Olive avenue nw.....	.....	1	1	1	1	1	1	2	8	8	8
Threlkeld, Thirty-sixth street and Prospect avenue nw.....	.....	.....	.....	.....	1	1	1	1	4	4	4
High Street, Thirty-second and S streets nw.....	.....	.....	.....	.....	1	1	1	1	4	4	4
Blunt, 3017 O street nw.....	.....	.....	.....	.....	.....	1	1	3	3	3	3
Birch, 2819 P street nw.....	.....	.....	.....	.....	.....	1	1	.....	2	2	2
Industrial Home.....	.....	.....	.....	2-5	.....	.....	.....	1	2	2	2
Whole number of schools:	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1897.....	6	7	8	10	9	10	11	13	74	69	74
1895.....	7	7	8	10	10	10	11	12	75	70	75

TABLE II.—Showing condition of buildings.

Building.	How heated.	Light.	Ventilation.	Water-closets.	Play rooms.	Yards.	Owned or rented.
Jackson.....	Furnace..	Excellent.	Excellent.	Excellent.	Excellent.	Excellent.	Owned.
Grant.....	Steam.....	do.....	do.....	do.....	do.....	do.....	Do.
Addison.....	Furnace.....	do.....	do.....	do.....	do.....	do.....	Do.
Weightman.....	do.....	do.....	do.....	do.....	do.....	do.....	Do.
Fillmore.....	do.....	do.....	do.....	do.....	do.....	do.....	Do.
Corcoran.....	do.....	do.....	do.....	do.....	do.....	do.....	Do.
Threlkeld.....	Stove.....	do.....	Poor.....	Fair.....	Poor.....	do.....	Do.
High Street.....	do.....	do.....	do.....	Poor.....	do.....	Fair.....	Do.
Blunt.....	Furnace.....	do.....	do.....	Fair.....	do.....	Good.....	Rented.
Birch.....	do.....	do.....	do.....	do.....	do.....	do.....	Do.
Industrial Home.	Steam.....	do.....	do.....	do.....	do.....	Excellent.	Owned.

TABLE III.—Showing half-day schools.

Name of school.	Half-day schools.		Grade of half-day schools.
	1897.	1896.	
Grant.....	6	4	1, 2
Weightman.....	4	4	1, 2
Addison.....	2	2	1
Total.....	12	10	.....

TABLE IV.—*Showing the distribution of pupils by grades and the average number per teacher.*

Grade.	Number of schools.		Whole enrollment.		Average enrollment.		Average daily attendance.		Average number per teacher.	
	1897.	1896.	1897.	1896.	1897.	1896.	1897.	1896.	Based on whole enrollment.	Based on average enrollment.
Eighth	6	7	260	263	208.6	219.1	193.4	206.4	45	34.4
Seventh	7	7	292	283	253	247.4	237	228	41	36.1
Sixth	8	8	356	338	305	290	283	269	44.5	38
Fifth	10	10	501	504	422	419.9	395	390	50.1	42.2
Fourth	9	10	430	415	376	369.4	352	339	48	42
Third	10	10	416	440	355	374	310	341.6	41	35.5
Second	11	11	416	404	350	341	325	310	38	32
First	13	12	639	635	497	461.7	453	415.3	49	38.2
Total	74	75	3,310	3,282	2,766.6	2,722.5	2,548.4	2,499.3	44.5	37.3

TABLE V.—*Showing percentage of attendance and cases of tardiness of pupils and absence and tardiness of teachers.*

Month.	Per cent of attendance.	Tardiness of teachers.	Cases of tardiness.		Substitute service.	
			1897.	1896.	1897.	1896.
September	96.9	1	78	65	1	.....
October	95	3	422	399	15	20½
November	93.4	14	410	421	12½	42
December	92.4	11	434	365	20	68½
January	88.7	28	611	491	37½	30
February	91.8	16	403	392	31	57½
March	92.2	14	472	431	36½	67
April	92.4	19	479	385	34	67½
May	92	10	347	356	12	52½
June	93.5	9	251	170	14½	17½
Total .....	.....	125	3,907	3,475	214	423

TABLE VI.—*Showing the number of graduates from the Washington Normal School from other normal schools, from colleges, and nongraduates.*

Washington Normal School	55
Other normal schools	1
Colleges	2
Nongraduates	16
Total	74

SIXTH DIVISION.

TABLE I.—*Showing location of buildings and distribution of schools by buildings.*

School.	Eighth grade.	Seventh grade.	Sixth grade.	Fifth grade.	Fourth grade.	Third grade.	Second grade.	First grade.	Total.	Schoolrooms.	Number of teachers.
Gales, First and G streets nw	1	1	2	2	1	2	2	2	13	¹ 12	13
Arthur, Arthur place nw	1	1	1	1	1	1	2	2	10	8	10
Blake, North Capitol street between K and L nw	1	1	1	1	1	1	2	2	10	8	10
Blair, I street between Sixth and Seventh streets ne ..	1	1	1	2	2		2	2	11	8	11
Blair annex, Eighth and I streets ne	1					2			3	2	3
Taylor, Seventh street near G street ne	1	1	1	1	1	2	2	2	11	8	11
Taylor annex, Eighth street between F and G streets ne					1				1	1	1
Madison, Tenth and G streets ne		1	2	2	3-4		2	2	10	8	10
Pierce, G and Fourteenth streets ne	1	1	1	1	2		3	3	12	8	12
Pierce annex, Maryland avenue near Fourteenth street ne						2			2	1	2
Hamilton, Bladensburg road, county		5-7			3-4		1-2		3	² 4	3
Langdon, Langdon, D. C			4-6			1-3			2	2	2
Whole number of schools:											
1897	7	8	10	10	11	11	16	15	88	70	88
1896	6	8	8	9	11	10	14	14	80	67	80

¹ Including 1 used for manual training.² One room unfinished.TABLE II.—*Showing condition of buildings.*

Building.	How heated.	Light.	Ventilation.	Water-closets.	Play rooms.	Yards.	Owned or rented.
Gales	Steam	Excellent ¹	Good	Excellent.	Fair	Parking	Owned.
Arthur	Furnaces	do	Excellent.	do	Excellent.	Ample	Do.
Blake	do	do	do	do	do ²	do	Do.
Blair	do	do	do	do	do	do	Do.
Blair annex	Stoves	Fair	Poor	Fair	None	None	Rented.
Taylor	Furnaces	Excellent.	Excellent.	Excellent.	Excellent ³	Ample	Owned.
Taylor annex	Stoves	Fair	Poor	Fair	None	Excellent	Rented.
Madison	Furnaces	Excellent.	Excellent.	Excellent.	Excellent.	Small	Owned.
Pierce	do	do	do	do	do	Girls', small; boys', ample.	Do.
Pierce annex	Stoves	Good	Poor	Poor	None	Small	Rented.
Hamilton	do	Fair	Fair	Privies	do	Ample	Owned.
Langdon	do	Excellent.	do	do	Fair	do	Do.

¹ The light in front rooms is better than that in rear ones.² Boys' play room now used for storage of fuel.³ Girls' play room now used as a cooking school.

TABLE III.—*Showing half-day schools.*

School.	Half-day schools.		Grade of half-day schools.	Number above second grade.	
	1897.	1896.		1897.	1896.
Gales.....	4	4	1, 2	.....	.....
Arthur.....	4	4	1, 2	.....	.....
Blake.....	4	2	1, 2	.....	.....
Blair.....	6	4	1, 2, 4	2	.....
Blair annex.....	2	2	2	2	2
Taylor.....	6	6	1, 2, 3	2	2
Taylor annex.....	.....	.....	.....	.....	.....
Madison.....	4	2	1, 2	.....	.....
Pierce.....	8	6	1, 2, 4	2	.....
Pierce annex.....	2	.....	3	2	.....
Hamilton.....	.....	.....	.....	.....	.....
Langdon.....	.....	.....	.....	.....	.....
Total.....	40	30	.....	10	4

TABLE IV.—*Showing distribution of pupils by grades, attendance, and average number per teacher.*

Grade.	Number of schools.		Whole enrollment.		Average enrollment.		Average daily attendance.		Average number of pupils per teacher.	
	1897.	1896.	1897.	1896.	1897.	1896.	1897.	1896.	Based on whole enrollment.	Based on average enrollment.
Eighth.....	7	6	321	283	275	239	259	226	45.8	39.2
Seventh.....	7	7	328	352	277	292	260	275	46.8	39.8
Sixth.....	9	8	415	404	350	335	328	309	46.1	39.9
Fifth.....	10	9	498	468	423	397	390	365	49.8	42.3
Fourth.....	10	10	463	531	409	447	379	370	46.3	40.9
Third.....	10	9	495	453	423	380	301	350	49.5	42.3
Second.....	15	13	616	589	517	486	474	449	41	34.4
First.....	15	14	760	805	574	589	519	536	50.6	38.2
Total.....	83	76	3,896	3,885	3,248	3,165	3,000	2,880	46.9	39.1
County schools.....	5	4	207	188	150	130	135	118	41.4	50
Grand total..	88	80	4,103	4,073	3,398	3,295	3,135	2,998	46.6	38.6

TABLE V.—*Showing percentage of attendance, cases of tardiness of pupils, and absence and tardiness of teachers.*

Month.	Percentage of attendance.	Tardiness of teachers.	Cases of tardiness.		Substitute service.	
			1897.	1896.	1897.	1896.
September.....	97.4	3	110	46	0.75	1
October.....	94.5	7	398	423	18	19
November.....	92.8	7	409	309	26.5	8
December.....	92.3	8	384	371	17.5	7.5
January.....	88.7	20	514	488	52.5	33
February.....	91.9	4	314	403	33.5	35.5
March.....	92.1	3	452	399	43	55.5
April.....	92.5	4	520	340	48	20
May.....	91.3	10	455	388	47.5	5
June.....	93.2	3	317	226	25	5.5
Total.....	.....	69	3,873	3,393	312.25	190

TABLE VI.—*Showing number of graduates from Washington Normal School, from other normal schools, from colleges, and nongraduates.*

Washington Normal School	72
Other normal schools	7
Colleges	0
Nongraduates	9
Total	88

SEVENTH DIVISION.

TABLE I.—*Showing location of buildings and distribution of schools, by buildings.*

School.	Eighth grade.	Seventh grade.	Sixth grade.	Fifth grade.	Fourth grade.	Third grade.	Second grade.	First grade.	Total.	School rooms.	Number of teachers.
WHITE.											
Conduit Road					1-5				1	1	1
Tenley		7-8	1	1	1	1	1	1	7	18	7
Brightwood	1	6-7		4-5		1	1	1	6	28	6
Johnson, Mount Pleasant	1	1	1	1	1	1	1	1	8	8	8
Monroe, Steuben street nw., between Brightwood and Sherman avenues	7-8			5-6	1	1	1	1	6	8	6
Woodburn, Blair and Riggs roads		6-8			4-5		2-3	1	4	4	4
Brookland	7-8		4-6	1		1	1	2	7	28	7
Whole number of schools:											
1897	4	4	3	5	5	5	6	7	39	45	39
1896	2	5	4	4	3	5	7	5	35	33	35
COLORED.											
Chain Bridge Road						1-4			1	1	1
Grant Road		4-7				2-3		1	3	2	3
Military Road, Brightwood			4-7			1-3			2	2	2
Wilson, Central avenue nw., between Erie and Superior streets		7-8	5-6		1	1	1	1	6	8	6
Orphans' Home, Eighth street extended				3-5			1-2		2	2	2
Mott, Sixth and Trumbull streets nw	1	1	1	1	1	2	2	3	12	310	12
Fort Slocum, Blair road					1-5				1	1	1
Ivy City					3-5		1-2		2	2	2
Whole number of schools:											
1897	1	3	3	2	4	6	5	5	29	28	29
1896	1	1	3	3	3	4	7	6	28	28	28

¹ One room used for cooking school.² One room used for manual-training school and 1 room used for cooking school.³ One room used for manual-training school.

TABLE II.—*Showing condition of buildings.*

Building.	How heated.	Light.	Ventilation.	Water-closets.	Play rooms.	Yards.	Owned or rented.
Conduit Road....	Stoves....	Good....	Poor.....	Excellent.	None....	Fair.....	Owned.
Chain Bridge Road.	....do....	....do....	....do....	....do....	....do....	Good....	Do.
Tenley.....	Steam....	Excellent.	Excellent.	....do....	Excellent ¹	Excellent.	Do.
Grant Road.....	Stoves....	Good....	Poor.....	....do....	None....	....do....	Do.
Military Road.....	....do....	....do....	....do....	....do....	....do....	....do....	Do.
Brightwood.....	Steam....	Excellent.	Excellent.	....do....	Excellent.	....do....	Do.
Johnson.....	Furnace....	....do....	....do....	....do....	....do....	....do....	Do.
Wilson.....	....do....	....do....	....do....	....do....	....do....	....do....	Do.
Orphans' Home..	....do....	....do....	....do....	....do....	....do....	....do....	(?)
Mott ²	Stoves....	Good ⁴	Poor.....	....do....	None....	....do....	Owned.
Monroe.....	Furnace..	Excellent.	Excellent.	....do....	Excellent.	....do....	Do.
Woodburn.....	Stoves....	....do....	Good....	....do....	....do....	....do....	Do.
Fort Slocum.....	....do....	Good....	Poor.....	....do....	None....	....do....	Do.
Brookland.....	Steam....	Excellent.	Excellent.	....do....	Excellent.	Fair.....	Do.
Ivy City.....	Stoves....	Good....	Poor.....	....do....	None....	....do....	Do.

¹ One basement room used for storing fuel.² Neither owned nor rented.³ One room occupied by manual training school.⁴ Excepting 2 rooms, in which the light is poor.TABLE III.—*Showing half-day schools.*

School.	Half-day schools.		Grade of half-day schools.	Number above second grade 1897.
	1897.	1896.		
Grant road.....	2	2	1, 2, 3	1
Brightwood.....		2		
Mott.....	6	4	1, 2, 3	1
Woodburn, or Soldiers' Home.....		2		
Brookland.....		2		
Total.....	8	12		2

632 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

TABLE IV.—*Showing distribution of pupils, by grades, attendance, and average number, per teacher.*

Grade.	Number of schools.		Whole enrollment.		Average enrollment.		Average daily attendance.		Average number of pupils per teacher.	
	1897.	1896.	1897.	1896.	1897.	1896.	1897.	1896.	Based on whole enrollment.	Based on average enrollment.
WHITE.										
Eighth.....	4	2	162	102	139.3	85	128	79	40.5	34.8
Seventh.....	4	5	154	181	129.8	153	116.9	137	38.5	32.4
Sixth.....	3	4	128	159	113	141	104	128	42.6	37.6
Fifth.....	5	4	216	189	184	151	168.6	137	43.2	36.8
Fourth.....	5	3	215	132	165	118	152.2	104	43	33
Third.....	5	5	222	225	189.9	183	171.9	162	44.4	37.9
Second.....	6	7	287	327	254.1	257	234	230	47.8	42.3
First.....	7	5	396	275	295.7	185	250.5	161	56.5	42.2
Total ¹	39	35	1,780	1,590	1,470.8	1,273	1,326.1	1,138	45.6	37.6
COLORED.										
Eighth.....	1	1	32	64	25	45	23	42	32	25
Seventh.....	3	1	102	42	85.5	35	78.7	33	34	28.5
Sixth.....	3	3	127	134	90	100	82	91	42.3	30
Fifth.....	2	3	84	141	70	112	67	106	42	35
Fourth.....	4	3	203	158	157.7	114	147.3	105	50.7	39.4
Third.....	6	4	294	186	223.9	145	202.3	132	49	37.3
Second.....	5	7	239	336	181.7	233	172	215	47.8	36.3
First.....	5	6	323	327	189.8	236	177.1	217	64.6	37.9
Total ²	29	28	1,404	1,388	1,023.6	1,020	949.4	941	48.4	35.2
Grand total..	68	63	3,184	2,978	2,494.4	2,293	2,275.5	2,079	46.8	36.6

¹ Including 11 ungraded schools.² Including 12 ungraded schools.

TABLE V.—*Showing percentage of attendance, cases of tardiness of pupils, and absence and tardiness of teachers.*

Month.	Percentage of attendance	Tardiness of teachers.	Cases of tardiness.		Substitute service.	
			1897.	1896.	1897.	1896.
WHITE.						
September	97	2	29	8	1	.....
October.....	94	5	185	156	8.5	6.5
November	91.1	6	220	152	6.5	3.5
December.....	90.9	18	222	141	5.5	10
January	85.5	25	273	162	16	14.5
February	88.7	10	206	133	14	18.5
March	89.9	14	239	135	16	27
April	90.2	9	250	133	23.5	13.5
May	88.6	8	263	128	28	5
June	90.6	14	114	68	12	5
Total		111	2,001	1,219	131	103.5
COLORED.						
September	96.4	8	4	.....	4	
October.....	95	1	85	93	4	15
November	93.2	11	111	85	4.5	31
December.....	91.3	9	124	77	2.5	17.5
January	89	4	119	89	3	2.5
February	91.7	3	93	87	11	18.5
March	92.5	5	87	91	8	7.5
April	92	4	81	93	3	5
May	91.7	4	59	78	.....	4.5
June	94.3	2	41	46	.....	4
Total		43	808	743	36	109.5
Grand total.....		154	2,809	1,962	167	213

TABLE VI.—*Showing the number of graduates from the Washington Normal School, from other normal schools, from colleges, and nongraduates.*

White—	
Washington Normal School	30
Other normal schools	3
Colleges	1
Nongraduates	5
Total	39
Colored—	
Washington Normal School (ninth, tenth, and eleventh divisions)	20
Other normal schools	5
Colleges	4
Nongraduates	0
Total	29

EIGHTH DIVISION.

TABLE I.—Showing location of buildings and distribution of schools, by buildings.

School.	Eighth grade.	Seventh grade.	Sixth grade.	Fifth grade.	Fourth grade.	Third grade.	Second grade.	First grade.	Total.	Schoolrooms.	Number of teachers.
WHITE.											
Tyler, Eleventh street, between G and I streets se..	1	1	1	1	1	1	2	2	10	8	10
Buchanan, E street, between Thirteenth and Fourteenth streets se			1	1	2	1	1	1	7	8	7
Cranch, Twelfth and G streets se				1	1	2	1	3	8	6	8
Benning, Benning, D. C	6-8		4-5		2-3			1	4	4	4
Congress Heights, Congress Heights, D. C			4-7		2-3			1	3	6	3
Good Hope, Good Hope, D. C			4-6			2-3		1	3	2	3
Van Buren, Anacostia, D. C	1		1	1	1	1	3	9	8	8	9
Van Buren Annex, Anacostia, D. C		1			1	1	1	4	16	4	4
Anacostia Road, near Benning, D. C									21		
Whole number of schools:											
1897	2	3	4	6	6	8	7	12	48	49	48
1896	2	3	4	7	4	7	8	11	46	45	46
COLORED.											
Benning Road, near Benning, D. C	5-7					1-2		2	2	2	2
Benning Road Annex, near Benning, D. C				3-4				1	22	1	1
Birney, Howard avenue, Hillsdale, D. C	1				2		2	5	4	5	5
Burrville, Burrville, D. C				4-6	1-3			2	2	2	2
Garfield, Garfield, D. C	4-7				1	1	1	4	6	4	4
Hillsdale, Hillsdale, D. C	6-7		1	1		2		5	16	5	5
Whole number of schools:											
1897	1	3		1	3	3	5	3	19	22	19
1896	1	3		1	3	4	3	3	18	22	18

¹Two rooms occupied as carpentry and cooking laboratories, respectively.²One room occupied as carpentry shop and cooking laboratory jointly.

TABLE II.—*Showing the condition of buildings.*

Building.	How heated.	Light.	Ventilation.	Water-closets.	Play rooms.	Yards.	Owned or rented.
Tyler	Furnace ..	Excellent.	Poor	Poor	Poor	Small	Owned.
Buchanan	do	do	do	Fair	Fair	do	Do.
Cranch	Steam	Good ¹	None	Poor	Poor	do	Do.
Van Buren	Furnace ..	Excellent.	Poor	Fair	Fair	Good	Do.
Van Buren annex.	Stoves	Fair ²	do	do	None	do	Do.
Birney	do	Excellent.	do	Poor	do	Excellent.	Do.
Hillsdale	do	Poor ³	Nene	do	do	Poor	Do.
Congress Heights	do	Good ⁴	do	do	do	Excellent.	Do.
Garfield	do	Poor ⁵	do	do	do	Good	Do.
Good Hope	do	Excellent.	Poor	do	do	Poor	Do.
Benning Road ..	do	do	do	do	do	do	Do.
Benning Road annex.	do	Poor	do	do	do	do	Do.
Benning	do	Excellent.	do	do	do	Excellent.	Do.
Burrville	do	Poor	Fair	do	do	Poor	Do.
Anacostia Road ⁶ .	do	do	None	do	do	Excellent.	Do.

¹ Except two third-floor rooms, where the light is very poor.² Except three rooms, in which the light is good.³ Except three rooms, in which the light is fair.⁴ Except two rooms, where the light is poor.⁵ Except one room, where the light is good.

Occupied by carpentry and cooking schools.

TABLE III.—*Showing half-day schools.*

School.	Half-day schools.		Grades of half-day schools.	Number above second grade.	
	1897.	1896.		1897.	1896.
Tyler	4	4	1, 1, 2, 2	.....	.....
Cranch	4	2	1, 1, 1, 2	.....	.....
Birney	2	2	1, 1	.....	.....
Hillsdale	2	.....	2, 2	.....	.....
Congress Heights.....	2	2	1, 2-3	1	1
Good Hope	2	.....	1, 2-3	1	.....
Van Buren	2	.....	1, 1	.....	.....
Total	18	12	.....	2	1

TABLE IV.—*Showing distribution of pupils by grades, attendance, and average number per teacher.*

Grade.	Number of schools.		Whole enrollment. ¹		Average enrollment. ²		Average daily attendance. ²		Average number of pupils per teacher. ²	
	1897.	1896.	1897.	1896.	1897.	1896.	1897.	1896.	Based on whole enrollment.	Based on average enrollment.
WHITE.										
Eighth.....	2	2	103	95	85	80	82	70	49	43
Seventh.....	2	2	140	110	92	98	86	90	55	46
Sixth.....	3	3	182	183	115	150	108	140	49	38
Fifth.....	4	4	233	226	164	193	155	180	47	42
Fourth.....	6	4	311	282	228	248	212	235	43	38
Third.....	6	6	339	361	246	312	227	293	47	41
Second.....	6	6	369	350	267	294	247	270	51	45
First.....	12	11	553	565	406	395	367	370	46	34
Total.....	148	146	2,230	2,172	1,603	1,770	1,484	1,648	48	41
COLORED.										
Eighth.....	1	1	33	38	27	29	26	27	33	27
Seventh.....	3	.....	37	48	34	44	30	38	.....	.....
Sixth.....	.....	.....	67	58	32	52	29	41	.....	.....
Fifth.....	2	1	86	74	41	61	38	50	48	41
Fourth.....	2	1	102	99	77	85	70	80	59	51
Third.....	3	3	154	168	145	130	133	110	38	32
Second.....	4	2	157	146	138	97	122	72	40	33
First.....	4	3	304	287	170	185	156	157	80	57
Total.....	119	118	940	918	664	683	604	575	50	40
Grand total..	167	164	3,170	3,090	2,267	2,453	2,088	2,223	49	41

¹ Including ungraded schools.² Excluding ungraded schools.*Supplement to Table IV and showing number of ungraded schools.*

Grade.	White.		Colored.	
	1897.	1896.	1897.	1896.
Eighth, seventh, and sixth.....	1	1	.....	.....
Seventh and sixth.....	.....	1	1	1
Seventh, sixth, and fifth.....	.....	.....	1	1
Seventh, sixth, fifth, and fourth.....	1	1	1	1
Sixth, fifth, and fourth.....	1	1	1	1
Fifth and fourth.....	1	1	.....	.....
Fourth and third.....	.....	.....	1	1
Third and second.....	3	2	.....	.....
Third, second, and first.....	.....	1	1	1
Second and first.....	.....	.....	1	1
Total.....	7	8	7	7

TABLE V.—Showing percentage of attendance, cases of tardiness of pupils, and absence and tardiness of teachers.

Month.	Percentage of attend- ance.	Tardiness of teachers.	Cases of tardi- ness.		Substitute service.	
			1897.	1896.	1897.	1896.
WHITE.						
September	95.4	.....	13	13	11	.....
October.....	94	4	111	112	36	9
November	92.8	2	139	79	15	13
December.....	92	3	132	162	28	9
January	90	4	147	127	44	57
February	91	7	105	83	34.5	47.5
March	92.4	2	107	71	15.5	62.5
April.....	91.5	2	106	70	22	56
May	90.6	7	119	76	57	7
June.....	92.2	4	58	31	10.5	15.5
Total		35	1,037	664	275.5	276 "
COLORED.						
September	95.7	.....	21	4	18	1
October.....	93.6	.....	95	89	43	31
November	92	.....	76	72	2	6
December.....	89.2	1	73	79	1	.....
January	89.2	.....	97	97	18.5	9
February	91.4	.....	78	83	22	23
March	92.3	1	66	72	20	2.5
April.....	92.1	.....	68	71	12	5.5
May	88.2	2	49	71	28	6.5
June.....	90.5	.....	19	23	31.5	14.5
Total		4	642	661	196	99

TABLE VI.—Showing number of graduates from the Washington Normal School, from other normal schools, from colleges, and nongraduates.

White:	
Washington Normal School	35
Other normal schools	2
Colleges	3
Nongraduates	8
Total	48
Colored:	
Washington Normal School (ninth, tenth, and eleventh divisions)	13
Other normal schools	1
Colleges	4
Nongraduates	1
Total	19

REPORT OF DIRECTOR OF MUSIC.

WASHINGTON, D. C., *June 30, 1897.*

DEAR SIR: It is of first importance in teaching music, as in teaching literature, drawing, and modeling, to develop in the child's mind thought and feeling, which naturally demand expression. It is next desirable to develop and clear from obstruction the natural channel through which expression in music must flow.

The only way in which thought and feeling on any subject can be rightly secured in the mind of the child is to give him long and varied experience, first hand, with the vital, stimulating material of that subject, gradually leading him to delicacy of perception and feeling, to comparison and to deduction. The material by which this is done in music is song. The child's natural method of expressing emotions which spring from this experience with expression is the voice. Incidentally the child must learn the symbols used in written music for the independent acquisition of new material.

To give the child the basis of experience in musical thought and feeling he is taught to sing during each of his first four years at school many songs relating to his other experiences. These songs are all taught to the child by rote, by direct appeal to the ear, every effort being made to present them in as musicianly a manner as possible in regard to matters of structure, pitch, rhythm, tempo, dynamics, and tone coloring, so that they may at least approximate a natural expression of thought and feeling. Above the fourth grade the child is able to read nearly all the songs from the printed symbols.

Care has been taken to select, as far as possible, songs in which the music and words are admirable and are harmoniously combined, united by the child's intelligence and experience. Effort has been made to have these songs sufficiently varied in character to cover the whole range of the child's thought and feeling. Many of the songs have been selected to correlate with other branches of study and are taught in direct connection with them. Unfortunately, the composers who have written really beautiful and appropriate songs for children are comparatively few, and their songs are written chiefly for the older children. In consequence many of the songs for the first and second grades do not musically reach the standard of those of the third and fourth.

Not only is each little song memorized by the child and kept alive in his mind by frequent singing during the entire year, but the most beautiful of each grade are still sung in the grades above, thus giving to every child a life-long treasury of charming songs.

The aim in teaching sight reading is to gradually give to the child the keys with which he can unlock the meaning of any musical combinations.

The reading of music is taught practically by the same method as that used in teaching reading—by presenting to the child orally a

musical entirety, a complete thought, and then showing him the symbol which represents it, training him to grasp the form of the entire idea. In other words, both the subject of intervals and of rhythm are taught simultaneously by phrase or entire elements. In no other way, except by years of laborious analytical study and practice (wooden), can the child learn to read music, like language, by phrase (representing idea in relation) and not by note. No true sense of rhythm, and consequently of the musical sense, is gained by the child who spells out his music a note at a time. To get the true idea his mind must grasp a rhythmic unit at a time, combined with pitch—an entire musicalelement.

No effort is made in the first year to teach the reading of music. During that time the child is busy storing up musical experience by the constant singing of songs closely associated with his life and work at school. The training in music reading begins during the second year, after the child, from his song work, has within his soul the feeling and the knowledge of all the simple intervals and rhythmic forms. The course in sight reading is carefully graded so that no musical thought is ever presented to the child by symbols until it has long been familiar to his musical consciousness by ear.

After the representation of a phrase has been written on the blackboard by the teacher and has been sung from the symbol several times to closely associate the idea and its picture, the children are led to reproduce on paper or on the blackboard as much of the representation as they are able to seize, unaided by any analysis or comment on the form by the teacher. As a last step the children sing the phrase individually from their own written representations. By training the hand to reproduce the representation of the musical idea (the symbolic image of the phrase) closely associated with the thought the child realizes the idea from the motor side of his soul, and works it into his own being as a physical possession.

Isolated, analytic drills in the representation of time and intervals are of value as a means of rapid review, but they should never be used until the teacher is confident that the children, from their experience with many varied forms, have already analyzed for themselves.

But the teaching of vocal music has only been partly done even when from long and varied musical experience there has been implanted and cultivated in the child's mind a rich store of musical thought and feeling.

This condition of the mind is naturally and inevitably accompanied by the desire for expression more or less intense in direct proportion to the vigor and variety of his musical experience. Every form of art flows from this desire of the human soul for expression, and the human being approaches a harmonious development relatively as his power of expression keeps pace with his power of thought and feeling. The obstruction or lack of cultivation of the voice, then, which is the channel of expression in vocal music, means the maiming or exterminating of the child's instinct toward that art, and the loss of the joy (more or

less deep according to his gifts or training) which attends uncramped, spontaneous expression.

The voice is practically developed in a two fold manner simultaneously: (1) By the relaxation of all nervous tension, not only of the vocal mechanism but of the whole mind and body as well, and (2) by the direct cultivation of the power and elasticity of the breathing apparatus, with its corresponding sympathetically induced action of the distinctly vocal mechanism.

With only a superficial consideration it might seem that the training in relaxation would be both simple and rapid, but a serious study of the subject will show both its great difficulty and the slowness of its development. If children were uniformly perfectly healthy (hygienically fed and clothed and wholly free from nervous strain and self-consciousness) there would be little or no work to do in this direction. Experience, however, shows such children to be extremely rare, whereas those with tense jaws, stiff, cramped necks, hitched-up shoulders, or contracted arms and hands, with many other forms of tension, are found in nearly every school. These unfortunate conditions are probably partly due to what have been deemed the necessary restrictions in school and to continual and wearing discomfort of seats either too large or too small for the child. But the greater part of the evil comes from wrong habits in the home life (improper food, tight or ill-fitting clothing, which keeps the body in constrained positions for many consecutive hours, and mental worry caused by continual overgovernment), from inheritance, and from the unconscious influence of the hurry and rush of our present American civilization.

From this statement the immense value and great difficulty of restoring the child to a natural repose, the highest state for true receptivity, may be imagined. As the body becomes more harmoniously relaxed the voice becomes a freer agent for the expression of spontaneous emotion.

As the child approaches nearer to a condition of deep repose and is able to take the breathing exercises in a relaxed condition both physically and mentally there follows, as a natural reaction after nearly every inhalation, slow stretching exercises, exactly suited to that child's particular needs. These stretchings gradually increase in scope until they have brought the whole body into perfect poise, where each part is in right relation to every other and acts economically and harmoniously with other parts.

With the increasing power and elasticity of the breath the voice begins to grow in beauty, flexibility, and range, and the pronunciation gradually becomes perfectly distinct without effort.

The practical working out of these principles has produced most encouraging results. Throughout the schools the general quality of tone in singing is distinguished by freedom, flexibility, and beauty, the speaking voices of the children are unstrained and well modulated, and the pronunciation is distinct and easy.

In most of the schools the children are able to sing music at sight by phrases, showing a real sense of rhythm, while all the songs are sung with keen enjoyment and a considerable degree of artistic appreciation.

A. E. SCAMMELL.

Mr. W. B. POWELL, *Superintendent*.

REPORT OF DIRECTOR OF DRAWING.

WASHINGTON, D. C., *June 30, 1897.*

DEAR SIR: In seeking for a consistent form in any line of educational development we are brought face to face with two ideas, one of which must be frankly accepted as a basis for the selection of methods. The one involves the idea of building, the other of development. The expression, "laying a solid foundation," so often used when speaking of primary school work, well expresses the first idea and the methods to which it leads. The picture called to mind is that of the foundation of a building, which is an art product, and has no existence until dead material is brought together and arranged to suit the purpose of the builder. He selects his location, levels it, uproots that which he does not want, brings great hewn stones from afar, and lays a foundation suitable to the edifice he has planned.

He who accepts the opposite ideal knows that it is not in his power to lay the foundation of a vital growth, even that of the most minute plant or insect which he may crush beneath his feet. It is a germ which contains within itself all the potentialities of its life.

As teachers, these vital growths come to us not only in possession of all their potentialities, but with many of them in a very advanced stage of development. What presumption to talk of laying foundations! These living organizations come to us for food, for the means of development that can best be given in associated school life, for the pruning of growths that, planted in heredity and encouraged by their environment, are threatening to stifle that which is best among their capabilities, for the presentation of ideals that shall awaken the consciousness of more precious possessions and some sense of the value their cultivation may be to themselves and to the world.

Thus, instead of laying a foundation on which to build a structure that shall realize our ideal, we are forced to the consideration of the living organism, the study of which occupies so prominent a place in modern scientific research—the study of the child first in relation to that which is common to all, then, so far as possible, as an individual. Now, it does not require any profound research to discover one prevailing condition of the normal child; any interested observer will perceive that he is in the love of knowing and doing. To investigate,

to be actively employed; to put into some tangible form all that he feels and learns, and through this exercise to strengthen his feeling and knowledge, is his life and his law of growth. He brings all the arts into requisition, he sings, he dances, he orates, he acts dramas, simulating in plays all that he observes in his little world. He constructs with every material that his hands can grasp.

This conscious self-activity, which education is to assist in guiding and developing, is the link that binds him to his Creator. It is his birthright to be in his finite sphere a creator. The child, like the man, strives to make of his thought a creation, to embody in sensuous forms his conceptions; and he recognizes very early the adaption of any material that comes in his way to the ends he has in view. Wise child! Through loving action comes divine knowing. Fortunate child when this irrepressible impulse finds an environment that opens the ways to high ideals and aims. It is because the constructive impulse and the investigating spirit, with the destructive sometimes as its prophecy, appear at so early an age and are in such advanced stages of development when the child enters the primary school that they are now so universally recognized as the media through which other faculties may be developed and guided. He is beginning through his successes and failures to feel the need of help, to seek for better ways of doing, and to catch glimpses of a world of knowledge into which he desires to penetrate. It is to meet him at this point that the primary course in form study drawing and manual training coordinating with the nature study has been arranged; it is for this that we ask for blocks, sticks, paper, clay, and colors to put it into the waiting hands; it is for this that our teachers strive to bring into the schoolroom all the available materials that nature offers. It is this that gives the school products that variety of form and material that is so marked a characteristic of the primary work in our schools.

Another precious faculty that we find intensely active in the child at this period is that of the imagination; the power of infusing life into dead wood and stone, of seeing in them only the heart's desire. This power of creating from the crudest materials an ideal world in which activities may find expression and affections satisfaction, of infusing life and seeing in them only the heart's desire, is one that presents a problem not easy to solve as an educational factor. It is a realm into which, I think, the adult hesitates to enter and which in many cases is jealously guarded by the child, but it is a condition which can not be ignored in any attempt at art education. It is essential to any art production, but, untempered by constructive ability and a love for the beautiful, it is inefficient, destructive, or grotesque.

If the tendency to construct is to be guided and the power of imagination to be regulated it is necessary to take into account a capability more or less active at this period, which with the two faculties already considered forms a trio that completes the art idea. Enfolded in this

living germ is the love of the beautiful, manifesting itself first by delight in sensuous impressions of color, sound, and form, growing into conscious appreciation of all expressions of that harmonious development which fulfils the end of being through individual freedom which is instinctively recognized as the prerogative and aim of all created things. The expression "beautiful" is called forth by any creation that has found all that it needs to perfect its structure, the refinement of form and the glory of color that belong to it, or by any combination in which every unit has found its place in developing one harmonious whole, for "Beauty is essence realized, activity in conformity with its ends and identified with it." (Hegel.)

We have, then, the three tendencies—the constructive, the imaginative, the love of the beautiful—with which we are forced to deal. If these tendencies are precious, as all admit, any plan of instruction that ignores any one of them or does not quite give to each its due share of attention is defective. We must enlist them in behalf of our educational work, or they will be constantly at war with it. We have seen that they constitute the soul and body of art productions in the line we are considering.

If the quality of art production is determined by the quality of the life by which it is inspired, we must seek to elevate that quality through the culture of the imagination and of the love and understanding of the beautiful. If good construction is of value to the individual and to society, every child should have opportunity to find out the direction in which his capabilities lie, and it is only by the tentative use of all his activities that he can discover this or realize to any extent the value that such culture may have for him in any sphere of life. This last we can not expect the child to fully comprehend, but it seems wise to take advantage of that stage of development in which he desires to learn and feels capable of undertaking everything; later he is apt to think that he can decide for himself what kinds of knowledge will be useful to him in what he proposes to be his future. Only experience of life can realize the uncertainty of our knowledge, of its direction, or teach us that, whatever it may be, an ideal and executive ability to carry it out is necessary to success. Thus the result of all educational effort must include both the elevation of ideals and the development of executive ability.

In art instruction, as in all other subjects, the end must govern the methods employed. In considering the aims and the methods employed at present in our course of instruction and their capability of improvement it may help us to the realization of the present status of the methods and the requirements of the course of instruction to review the unfolding of the ideal for the benefit of teachers, directors, and the public generally since the introduction of drawing into our schools as an essential part of the curriculum.

We find first the industrial idea when the leading thought was to

train our future artisans through the public schools as designers and decorators and to elevate through general culture the taste of the public to an appreciation of what was good in these industrial products, the end being, that our country might reap the profits that accrue from the effect of taste and skill added to raw material, that we might no longer be dependent upon foreign countries and foreign workmen for the production of the beautiful. How this idea was intensified in the mind of the general public through the opportunity afforded by the great Centennial in Philadelphia of seeing our inferiority to other nations is a matter of history so well known that I need not dwell upon it. A new idea of the practical money value of art training to a country and to the individual was gained by countless numbers who gazed upon those beautiful products and saw the added value given to them by the elements of beauty and skill. The resulting demand was for the training of the future American artisan. Now the demand of the people is the ground in which the seed must be planted, especially in public schools, for these belong to the people. It must be accepted by the educator, though he may see deeper and resolve to plant precious seed whose fruitage is still unsought by the majority.

There was rapid growth with this idea as a leader; but in the midst of it all and largely as a result of this beginning a new thought was being evolved. Methods were being criticised as narrow; printed systems were being constantly revised, so rapidly, indeed, that it was not possible to complete one edition before a new revision took its place. Added to this the little power that could be attained in free-hand drawing through the efforts of teachers who could not draw themselves and who had no opportunity to know what drawing, much less art, really means, inevitably led them to favor mechanical methods and such portions of the course as would enable them to use such methods; hence the favor that was apt to be shown to geometrical drawing and decoration. Object drawing, however urged, was in disfavor, except as the results could be worked out by the aid of vanishing points. I do not mean that there was not in many places good free-hand drawing. I am speaking of the prevailing feeling in regard to it.

And why should this not have been so? The teachers had received no adequate instruction in drawing. Their minds were mathematically trained, and could more easily comprehend and inevitably turned to the geometrical phase of the subject. It was also an era of severe examinations and the close marking of results. The teachers abhorred a result the imperfections of which could not be demonstrated and marked. This was the atmosphere of the schools which our art plant breathed, and the result was inevitable.

There was, too, a kind of necessity for this kind of training in drawing, for we had to oppose in the minds of the pupil and the public the sentimental aspect of the subject, which considered that drawing and painting were accomplishments only and unworthy the attention of

the virile mind. Of course with this idea prevailing, science was an unnecessary element, facts of no special value. It mattered little whether the picture of the rose bore the leaves of the rose or those of some other plant or conformed in any way to the laws of growth that govern the real plant. It needed compasses and rulers and some investigation into the facts of things to straighten out these ideas, and those who had experience during those years can but feel thankful for the counteracting influences of mechanical drawing and scientific study.

As the interest of superintendents and school boards in the subject increased their attention was naturally drawn to the value of the training as an educational factor; to the idea that the chief value of drawing as a part of the school curriculum is in the increased powers of observation gained by the pupil, training of the eye, of the hand, and that culture of the mind that enables it to appreciate the beautiful in nature and in art, that the exercises should be specially adapted to the obtaining of these results, leaving practical results to follow as they would. The thought that strove to find expression here was that worded by Ruskin when he says, "Try first to manufacture a Raphael, then let Raphael direct your manufactures. He will design you a plate or cup, a house or a palace, and design them in the most convenient and rational way; but do not let your anxiety to reach the plate and the cup interfere with your education of the Raphael." The prevalence of this thought led to a desire for a change in methods, more study of nature, more free-hand object drawing, to the introduction into the primary schools of individual sets of solids, planes, and sticks, so that every child might gain through his senses a knowledge of form, to the term "form study" as a designation of the course of study, to the oral and written expression of ideas of form, and to an increasing tendency to adopt kindergarten methods in our primary schools.

While the value of this idea was recognized, it sought a more definite form in accordance with the practical genius of the average American public. Educators began to think that drawing might be put to use in the development of other studies and that perhaps added power might be acquired by so using it. Here the conventional drawing master stood in the way. He stood aghast at such a proposition. To allow a child that could not draw a straight line to attempt to represent a whole plant, an animal, perhaps the human figure—the variety of subjects that would enter into such work! How unsystematic! He was not permitted to attempt such subjects in the art school except through a long course of study in details! Of course he was not, if, as an adult, he was pursuing a prescribed course of training, but he might remember how many of them he did "on the sly," and looking back to his earlier years he would recall many such attempts—ships, locomotives, horses, cats, dogs, etc. If he had not produced something of the kind he would not have been in the art school.

Superintendents replied to this, "We don't know much about the

technical methods, but think there is not much use in drawing if it can not be applied. "Studies must be correlated." He might quote the words of one great art authority in confirmation of his ideas. Ruskin says, "It will be found that the exercises which are directed most clearly to the acquisition of general knowledge will be swiftest in their discipline of manual skill and most decisive in their effect on the formation of taste." He also says, "If you desire to draw that you may represent something that you care for you will advance swiftly and safely. If you desire to draw that you may make a beautiful drawing you will never make one."

And so began the era of what has been so aptly termed "Drawing as the handmaid of the sciences." Well, drawing pure and simple is a handmaid and is at the service of all who desire to employ her. She is certainly only the handmaid of art. She is not art, though art would struggle in vain for expression without her aid.

But there was in the air a flutter, a sigh, occasionally an indignant protest. Where is the "Art idea?" How will all this give to our children any knowledge of what great things have been done in the world of art? Will they not be satisfied with their feeble attempts and never realize how much better someone else has done it, some dweller in the vast beautiful art world which has been created through the efforts of the soul of man to give tangible form to his highest conceptions of the beautiful? "Is there not danger"—I quote from one of our most earnest advocates of art education—"in the very fact that all progressive school instruction deals so largely with material things?" Yes, there is danger; there is always a lurking evil in the vicinity of every good thing, but brave people do not stop for that. All brave workers derive their courage from faith in the outcome of what is being done, not from present aspects alone. But the art spirit can not manifest itself except through a material form. The brain must be well stored with clear and vivid conceptions of material forms, else there is no artist. It is only through the expression in material form that we receive the thought of the artist, and we can not read it then except in measure of our knowledge of that which he has selected to give shape to his thought. Perhaps the art ideas of the coming age may possess qualities that require a more intimate knowledge of the wonderful works of the Creator, closer reading of His great wonder book in order that the vessels to contain the new wine of life may be more worthily shaped, stronger in their framework of truth.

Meanwhile, whether we will or not, the scientific spirit is abroad. We are studying nature in our schools; the drawing is being connected with it. It is our part to see that the connection is what it should be, that the bare external fact is not separated in the mind of the child from that which gives it life, and that neither the industrial nor the art phase shall suffer elimination. And we can do this if we will but consent to revise our methods and harmonize them with the spirit that is permeating and transforming all educational methods. We call this

the kindergarten idea, because Froebel has given it the most perfect expression in the education of the little child that the world has yet seen. Many of the materials and exercises of the kindergarten have for a long time, indeed, been adopted in the primary grades of the courses in drawing most used in our schools, but what we need is the frank adoption of the spirit that is or should be the life of its methods, and this does not stop with the little child, though it must take on other forms than those of the kindergarten. This influence has greatly modified the course as originally arranged for our primary schools. Modeling, which has no place in the art-school course until after long training in drawing, is now adopted as one of the earliest exercises for the child.

Color, also permitted to the student only after a long series of exercises in monochrome with charcoal and crayon, is now, through the influence of the kindergarten and child study, recognized as the child's prerogative, and his color love is no longer starved until he has conquered the subject of form.

These two innovations are changing all our methods, as may be realized by any observer of the courses pursued in the most advanced centers and of the gradual change in drawing books and manuals as successive editions are presented to the public.

That in many cases these changes, especially when attempted by uncomprehending teachers, should produce the appearance of a disorderly development is inevitable. It is the law of progress.

Progressions adapted to the ability of the learner are necessary in the pursuit of any branch of knowledge. This progression has in the old methods been sought through the effort to select subjects presenting no difficulties that the child through persevering effort was not supposed to be able to overcome. This was the stepping stone to something a little more difficult, and so on. (It is true that is a vain effort, there being really no such subjects, the drawing of even one straight line or perfect curve requiring skill only approximated by long and patient practice.) Now the range of such subjects is not great, and the lack of variety and of vitality made them uninteresting to a child and tended rather to lessen than to increase his effort to succeed and to a loss of confidence in his own ability. Long before he reached the complex form of the animal, plant, or landscape he had become convinced (progression being by subjects) that he could not attempt the representation of any object that he had not been specifically taught to draw, even though it was before his eyes.

A truly progressive course will give increasing ability to see, to select from the subject for representation that which is vital, and increase the control of mind over hand, enabling it to manipulate materials. The development of all these powers must progress together according to age, ability, and practice.

Simplicity of representation depends less on the subject than in what you choose to say about it. You can never tell the whole story, and if you could it would not often be desirable. The art of selecting should

be cultivated from the beginning. Draw from a picture: another mind has done the selecting and used that which represents his thoughts about it. What is the story you have to tell? What can you truly see? And how much of that can you tell, with the little ability you possess and the material you have to work with? Use what skill you have and you will see more and better; represent what you see; do not try to tell a long story, but a short one as well as you can. Never forget that art is a language, and of no use unless you have something to say.

And, teachers, do not forget that the keynote to successful teaching is the power to awaken sufficient intelligent interest in the subject to enable the pupil to have something to say.

The direction of the art instruction in the eight grades is the endeavor to carry out the ideas set forth in the foregoing portion of this report. The degree of success depends largely on the interest and ability of the teachers having charge of the schools, and with so large a body must necessarily be, as in other studies, somewhat unequal. To present and keep up the standard and to aid the teachers in every possible way through meetings, lessons, suggestions, and supervision has been and will continue to be the aim of the director and assistants.

As indicated from year to year in former reports, such advances as are dependent upon additional supplies of material are made as rapidly as possible, material for handling and observation being essential to development on the lines adopted. The demand must be large, as the manual training of the lower grades is included in the course. This feature is so well set forth in a report of the director of manual training that I quote it here:

One fact deserves emphasis in this connection. I have been speaking of the shop-work feature of our manual training, of its growth and success. It is due our school system to say here that I fully believe the foundations for that growth and success are to be found in the manual training of the lower grades—that is, the manual side of the instruction in drawing and in the processes of teaching other branches of education given in grades 1 to 7. This early manual training is largely of the naked hands; at first wholly without tools, and later with tools only of the simplest character, such as in some cases the child fashions for himself from sticks. So, in a variety of materials and in different methods of manipulating the same material, the long series of manual-training lessons begin. The principles are the same as those involved in the higher grade work, for which this is consequently a direct preparation. A proper appreciation of our whole system can not be felt unless this fact is carefully noted.

In referring to manual training in lower grades, it must be understood that no separation exists between it and the artistic training. It should all be art training, without which skill of the hand is but a senseless tool. It should all be manual training, without which the most artistic ideals find no expression.

During the last school year the children of the fourth grade were supplied, to their great delight, with color boxes. To those who have

once used color as a medium of expression the loss of it is felt as a great deprivation. The success of those who had received one year's training as a basis was very gratifying.

The clay course in this grade was changed and a modeling tool supplied. The work as now given involves some of the principles of design, and it is hoped will give added impetus to the inventive powers as applied to material. In the upper grades a series of time sketches was suggested through teachers' meetings. These were intended to cultivate ideas of proportion and of the apparent relations of objects in groups. In most of the exercises the human figure was the central point of interest. The pupils posed, one for each half of the school. The sketch required included whatever was seen adjacent to and also all in line of the figure—as table, chair, piano or desk, the blackboard, pictures, wainscoting, and platform—all indicated by as few lines as possible. The sketch was criticised only in regard to the correctness of the relations of these objects to the figure and to one another. The introduction of the human figure added sufficient interest to the subject to bring out all the effort of which the pupil was capable. While a large proportion of the representations of it was crude, there was an astonishing amount of good sketching done, which agreeably surprised as well as delighted the pupils themselves.

EXHIBIT.

In June an exhibit of manual training, drawing, and compositions was held at 1218 F street northwest. This call was very unexpected, and the time for the collection and arrangement of drawings very short. There was no time for teachers to do special work; the display was necessarily taken from the work being done in the regular lessons of the schools.

The result was very satisfactory and gave a fair idea of the abundance of good work to be found in the schools of the District to many who can only see it when brought together at one time and in one place. It has been several years since this has been done in any place so accessible to the public, and it seemed to be appreciated, the room being filled with interested observers four days and evenings.

The wall space allotted to the drawings was well filled with specimens from the eight grades, from the normal and the high schools, consecutively arranged, and the shelves beneath were piled with packages of class exercises, representing all schools, and with clay modeling, cardboard construction, and as much of the handwork of lower grades as could be represented. The water-color painting of the first four grades was especially attractive. The illustrative drawing and painting shown in connection with the compositions was also an interesting feature and gave a fair idea of the possibilities in this direction. The tendency toward decoration of shop constructions evidenced that more

time given to the study of decoration in the grades would be of value, while a glance at the artistic work done with the needle in the sewing department suggested possibilities in this direction.

As a whole, the only regret experienced in connection with the exhibit was the limited space and time for arrangement.

NORMAL SCHOOL.

The change in the normal school from a one year's to a two years' course makes some changes in the drawing course. As from this school are appointed the greater number of new teachers in lower grades, the instruction must follow closely along the lines of grade work.

The following course is given the first-year class:

Theory and free-hand practice of perspective drawing; objects, plants.

Water color; objects, fruit and plants.

Study of agricultural styles.

Study of examples of sculpture and painting as to the age in which it originated, style, school, artist, etc.

Blackboard work in connection with the nature work of the first four grades.

Second year.—The number in this class being small, and this time being largely given to teaching in the practice schools, no regular course was arranged. The class time that could be given to the subject was occupied with such advanced first-year work as seemed to be required. The plan for the second-year course the coming year is as follows:

Advanced modeling from casts and from nature design.

Continuation of the study of architectural styles and of the examples of sculpture and painting.

Illustrative drawing for lower-grade work.

Practice lessons in teaching.

Water color.

The historic art study was illustrated by visits to the Corcoran Gallery, the Congressional Library, and by observation of many public and private buildings to which the attention of the class was called by the teacher.

An occasion of unusual pleasure and profit was afforded to the faculty and pupils through the kindness of Rev. Frank Sewall, who gave to the normal school two lectures on the painting of the Renaissance. These were illustrated by his large collection of choice photographs made during his residence in Italy. The young ladies were given ample opportunity to examine and enjoy the pictures.

The subtle quality of the true teacher who enjoys his work and his subject, so evident in these lectures, suited the occasion and made them especially delightful.

HIGH SCHOOL.

In passing from the grades to the high school the course of study must be adapted to the organization of the school. The subject being taught by special teachers who give their entire time to it, a rapid advance in the power of drawing would naturally be expected from the pupils. But this advantage in the first and second year regular classes is largely counterbalanced by two conditions. An examination culls for the special class those who have special ability and whose desire for instruction makes them willing to devote two periods per week to the study. The regular class is thus composed of those who are less advanced and of those who desire to give most of their time and effort to other studies. With one period each week it takes an exceptionally fine teacher to interest the class and to make valuable the instruction given. With the class having two periods per week the case is quite different. With love for the subject and reasonable time much more and better work should be and is the result. Some changes in methods have been made with beneficial results. The introduction of the third-angle method brought the subject of projection more into harmony with the making of working drawings in the grades and with the manual-training shopwork.

It is designed that less instrumental drawing shall be done in the first two years of the course than formerly. The value of mechanical construction in training mind and hand to accurate expression of accurate thinking is too great for omission, but it seems desirable that there should be fewer problems, with more varied application, in these years. In good teaching no problem is given without an exercise involving observation and thought on the part of the pupil. Exercises in this course are applications to constructions which are observed and of which free-hand sketches are brought in by the class. These sketches are then worked out geometrically by the pupil. Some of the subjects are arches and gothic windows in buildings accessible to the observation of the pupil, and examples of ornament, as mosaic floors, oilcloth patterns, borders, and rosettes, having a decided geometric basis. In connection with this is given in lectures the historic story of ornament as it is affected by geometry. The historic study of ornament as based upon and modified by plant forms should accompany the drawing of the natural forms. The free-hand study in pencil and charcoal of groups of objects shares the time with the above-mentioned subjects.

In the Central, Eastern, and Western schools 487 pupils took the regular course the first year and 210 pupils the special course of two lessons per week.

The course for the first two years of the high school is not designed as a special preparation for technical schools. It endeavors to give such training and such information relating to art as all should possess, for all are either art producers or users of art productions, of which they

should have some understanding and appreciation. It also serves to develop the ability of the pupil in certain directions, and wisely directs his choice of a course in the third and fourth years, which may be a direct preparation for entrance into the polytechnic or the art school.

The theory upon which this plan of an optional course in the third and fourth years is based is that at this period it is reasonable to suppose that the pupil, his parents, and teachers will have formed some decided opinion as to special ability and possible career, so that force directed in special lines may be of practical value to the student. Hence there is choice of a course in mechanical drawing or of free-hand training, with water color or charcoal as the medium.

The teachers' course is an advanced regular course of two lessons per week. There is also opportunity for the selection of a major course of six lessons per week.

In the Business High School drawing is an elective course, but the required course in other studies makes its selection, even by those who desire it, somewhat difficult, especially in the second year, where pupils naturally hesitate to reduce their study hours to one period in the week in order to take drawing.

In the first year it is an alternate with typewriting. The course was made as practical as possible. The larger part of the time was given to the making of drawings from pieces of machinery and Patent Office models, each pupil working from a separate model, which, being unlike any other in the class, obliged him to think out for himself the problems presented. These drawings of elevations, plans, and sections, isometric and perspective views, were prepared in accordance with the regulations of the United States Patent Office.

The second-year class also devoted some time to architectural work and the preparation of house plans developed in class under the teacher's guidance. Fine lettering as a necessary part of drawing received attention. Business lettering and freehand sketching did not receive so much attention as in the preceding year. It is to be regretted that it has not been feasible to give a short general course to all in these subjects, as the ability to letter and to make quick sketches is of practical value in all kinds of business.

The course as given now is limited in scope, but is thorough, and results in a good understanding of the subjects and good execution of the drawings. It also responds to the demand of a limited number who desire training in a special line of work.

Very respectfully,

Mr. W. B. POWELL,
Superintendent of Schools.

S. E. W. FULLER.

REPORT OF DIRECTOR OF PHYSICAL TRAINING.

WASHINGTON, D. C., *June 30, 1897.*

DEAR SIR: The school year of 1896-97 brought to a close the eighth year of physical training in the Washington public schools. Since eight years correspond in length of time with the entire school life of the child previous to entering the high school, it is my pleasure to make a comprehensive report of all which has been accomplished in this time, to show the conditions of our schools which bear directly on the healthy growth of the child, and to restate those facts which show that body training is a part of the framework of the education of our children, by means of which we strive to make human life all-sided, efficient, powerful, and happy.

The great question, "What ought the public school to do for the child?" has its first answer in the heart of every parent, that everything which promotes and conserves the bodily health of the child intrusted to the care of a teacher five hours of the day is of first importance. Since the child is taken from the home to be educated by the state, it becomes the duty of school authorities to see that the assembling of great numbers of children to sit for consecutive hours of the day, be under the best hygienic conditions possible under the circumstances. This duty is emphasized when we realize that the resisting power of the young is less than that of adults, making them more susceptible than their elders to the evils which arise from bad hygienic conditions. The teacher, acting for the parent, should see to it that in so far as she is able the schoolroom is a place where body growth keeps pace with growth of mind, where the vital powers have free play, unrestricted by bad positions and impure air, where suffering is unknown, and where, above all other things, is sought the happiness of the child, since in happiness is the surest source of health, both mental and physical.

HYGIENIC AND EDUCATIONAL VALUE.

One great factor in promoting this ideal, healthful school life, is the setting apart of a daily period for bodily exercise whereby muscles which have become weary from long sitting, have an opportunity to stretch and grow. By such exercise the circulation is increased, the brain cleared, the lungs expanded, pure air entering therein, and the involuntary muscles exercised, aiding in the proper functioning of the entire organism. In the report of the Committee of Fifteen appointed by the National Educational Association to consider the correlation of school studies, of which committee Dr. Harris our Commissioner of Education was chairman, physical training was recommended in the following words: "In regard to physical culture, your committee is agreed that there should be some form of special daily exercises, amounting in the aggregate to one hour each week, the same to include the main features of calisthenics and German, Swedish, or American

systems of physical training, but not to be regarded as a substitute for the old-fashioned recess established to permit the free exercise of the pupils in the open air. Systematic physical training has for its object rather the will training than recreation, and this must not be forgotten.

* * Systematic physical exercise has its sufficient reason in its aid to a graceful use of the limbs, its development of muscles which are left unused or rudimentary unless called forth by special training, and for the help it gives to the teacher in the way of school discipline."

Of the value of exercise in general little need be said, since its fundamental principles are matters of general information. We are specially concerned in that phase of the subject which bears directly on its value as a part of the public school curriculum. That which lays claim to a place in every broad scheme of education is systematized physical exercise, in contradistinction from mere physical exercise in general or free play alone. Exercise alone is not training; training comes only through specific direction and methodical execution.

By systematic physical exercise we mean the exercise of the body according to certain methods of procedure based upon our present knowledge of physiology and psychology. Its claims for consideration are:

First. It seeks organic perfection. Many muscles, such as those of the abdomen and chest, the diaphragm, and the intercostal muscles, under ordinary circumstances are little exercised. Special attention to these increases the functional power of the vital organs within, on which so much of health depends.

Second. All parts of the body are developed equally, aiding the child in attaining his maximum growth, and at the same time developing symmetry of form.

Third. Muscular coordination is secured, whereby the child gains control over all his muscles, fitting him to perform without waste of energy all the acts which, under ordinary circumstances, he is called upon to do.

Fourth. Grace of motion is cultivated. This subordination of the body to the will is the source of all graceful action.

Fifth. The power of inhibition cultivated in the nervous system by refraining from all unnecessary movements in gymnastic work is of no small import when we consider that without doubt it has its effect upon character, strengthening it in moral actions demanding self-control.

It is the formation of right habits of action, referred to under the last three heads, which makes physical exercise in the school subserve an educational end. Gymnastics are given as a means to an end, and not as an end in themselves.

PEDAGOGICAL VALUE.

The pedagogical value of physical training not being so clearly understood, I venture to go more into detail. Since much of the work of education deals with mental processes, and since the processes of the

mind are intimately connected with the brain, whatever their relation may be, it is well to consider the physiological effect of exercise on that supreme center of the nervous system. Not only is the brain the organ of thought and volition, but here are received the impressions of the outside world through nerves, muscles, and the sense organs, by means of which education is carried on.

Experiments on lower animals have shown that their brains have distinct areas, which when stimulated by electricity cause certain parts of the body to move. A current of electricity applied to one part of the brain of a certain animal bends the leg, to another part turns the head, etc. The same stimulus applied to the corresponding part in other animals invariably produces the same result. Based on these experiments, a large portion of the brain of the dog and other animals has been mapped into areas or centers, which when excited cause certain definite movements. If one of these centers be removed, the part of the body whose movement it controls becomes paralyzed and wastes away, thus corroborating the theory that every movement has its corresponding center in the brain, called its motor center. Owing to the fact that in the treatment of brain diseases the irritation of certain parts shows manifestations similar to those produced by the corresponding parts in animals, students are led to believe that the human brain has what is called its localization of function. In a similar manner, with some limitations, are known the situations of the centers of sight, hearing, smell, taste, and touch—the sensory centers.

It is with these centers of sensation and motion that education chiefly deals. For this reason education has been called a training of nerve centers. James Crichton Browne, an eminent English neurologist, says:

“Now the centers of motor ideation require to be exercised in order that they may be properly developed and may contribute usefully to mental processes, and hence muscular training is likely to assume a more important and precise place in our educational system of the future than it has hitherto done. * * * And as regards the motor centers, it can only be said that they are well used when the muscles with which they are in relation are well used also. We thus see that an extensive region of the brain in which the motor centers are situated, and which is of course in intimate communication with all the other regions of the brain, can only be fully vigorous when the whole muscular system is fully vigorous also, and we recognize that good muscle work is essential to good brain work.”

From which it is readily seen that one of the strongest arguments in favor of physical training from the standpoint of the educator, lies in the fact that the best mental results can be obtained only when all physical aid has been rendered to the proper functioning of the nervous system. The great truth we must ever bear in mind is that physical education, like all education, is a training of the nervous system, and

bears a direct relation to mind in that all mental action is dependent on the nervous structure and its blood supply.

Considering the brain as a collection of organs, rather than a single organ, it follows that if a well-balanced mind be sought all the parts should be developed equally. The exclusive cultivation of one faculty may lead to the disproportionate development of its representative in the brain. In the training of the young this is an important fact which our new methods of education hold constantly in view. Herein lies one of the educational values of manual training, drawing, modeling, and physical exercises. In seeking the development of the body as a whole we are aiding in the development of the brain as a whole.

Another view of the subject emphasizes its importance as a coordinate branch of instruction. With the new education—teaching by observation and experiment—has come a training of the organs by which knowledge is first acquired. This implies a training of the muscles and nerve centers of hand and eye which are concerned in perception. Those of the trunk and legs receive little or no attention. Manual training, drawing, sewing, and much of kindergarten work call upon the higher nerve centers for their execution. How important it is that the lower fundamental nerve centers of trunk and legs, upon whose healthful action the former depend, be so strengthened as to form a good basis for the operation of the higher nerve centers. There is no doubt that by means of gymnastics, exercising specially the trunk and legs, the higher activities are assisted as well as the fuller development of the child secured.

INTRODUCTION OF PHYSICAL TRAINING.

In the fall of 1889, the present director with two assistants was given charge of the new department of physical training in the schools of the first eight divisions, since which time, owing to the increase in the number of schools and the development of this department, the number of assistants in the lower grade schools, has been increased to five, while two special teachers have been appointed for girls in the high school.

At that time gymnastics had been introduced into only twelve cities of the country, mostly in the West, these cities being in the order of introduction, Jamestown, N. Y., Milwaukee, Omaha, Kansas City, Mo., Chicago, Davenport, Ia., St. Joseph, Mo., Canton and Cleveland, O., Holyoke, Lowell, and Malden, Mass. Through correspondence with the largest of these cities it was found that with few exceptions the work was in charge of German turners who had introduced with modifications the German system of gymnastics. Since then physical training has been introduced into almost all the large cities of the East, so that the number of cities which have regularly introduced and maintained physical training in their schools, is now over one hundred.

In 1889 the great problems bearing on the relation of physical training to the public school, were yet in their infancy. In the same year a

memorable conference of educators and leaders in the work, presided over by William T. Harris, the Commissioner of Education, was held in Boston, for the purpose of discussing this subject in all its phases, "with a view to clearly ascertaining the needs of schools and determining how they may best be met." This meeting was attended by our superintendent of schools, who returned to Washington with the best thought of the conference.

Nowhere were we able to obtain a thoroughly graded course of exercises, by experience found practicable for the schoolroom, fitting into the eight grades of the school, changing with the years, and progressing with the growing powers of the children.

Near the close of the year 1891 the director of physical training was given a leave of absence to visit and observe gymnastics in Germany and Sweden, which countries have been foremost in the training of the youth to perfect physical manhood. Carrying letters of introduction from the Secretary of State and the Commissioner of Education she was enabled to see the work under the most favorable circumstances.

After a careful consideration of the two systems of physical training which had been transplanted to this country from Germany and Sweden, it was decided to choose those desirable features which recommended themselves on account of their physiological or other value, and with these as a basis to formulate a course of physical training. It was thought best to study the laws of physiology, psychology, and hygiene; to study the child in the schoolroom, and, knowing the principles of physical training, to work along those lines which seemed to meet the demands of our American children, and the conditions of the Washington schools—the problem in hand.

A plan of administration, described later in this report, was adopted which proved so satisfactory that it has been continued up to the present time. Teachers' meetings were held to instruct teachers in the first principles of exercise and in such simple movements as were first given to the children. Special lessons were given to the children in the classroom for the observation of teachers of that grade, after which hints and suggestions in regard to carrying on the work were noted by the teachers.

The most effective agency in securing the careful introduction of physical training with the best results, was the institution of the policy of having all new exercises taught first to the class by the special teacher, who leaves with the regular teacher a lesson sheet containing printed directions in regard to the same. By this plan each class in the District of Columbia receives the new exercises first from the hands of the specialist, who has carefully prepared her method of teaching and spends thirty minutes in presenting the same. The regular teacher in this way observes the model lesson taught in her room to the same children with whom she works daily.

We began by instructing pupils in regard to a good standing position, healthful sitting positions, best manner of rising and sitting,

graceful carriage of the body in walking, erect carriage of the body in ascending and descending stairs, and deep breathing, all classes receiving special lessons in regard to the same. Following this came special exercises tending to strengthen those muscles actively engaged in maintaining normal positions. Since all schools alike were ignorant of the first steps in body training and had to start with the simplest movements, the first attempt at grading was made by dividing the exercises into large groups suitable to primary, intermediate, and grammar schools.

EXERCISES.

The qualifications of an exercise to warrant its introduction into the schoolroom are four in number. It must first of all have a definite purpose, hygienic or educational; it must be adapted to the age of the child; it must be adapted to both sexes, and it must be capable of execution between the desks. The first requisite is all-important in a scientific system of physical education. Exercises are not chosen merely because they look pretty or are easy of execution.

Much of the school work being done while sitting at a desk, the physical tendency is inward and downward. For this reason exercises which stretch the muscles outward and backward are given special importance, thereby counteracting the effect of working while sitting. Deep breathing, with or without arm movements, is never omitted. Movements which bear directly on the internal organs, aiding the involuntary muscles to do their work, are specially sought. The muscles of the chest, waist, and back are exercised whenever possible. A series of exercises bringing into action the muscles of the trunk, legs, arms, and neck, increasing the blood supply in these respective parts, constitute a gymnastic lesson.

SYSTEM.

A system of physical training may be good theoretically, physiologically, anatomically, but as one to be placed in the public school may fail. So many elements enter into the successful workings of any system, that one which fails in one city may be successful in another. The executive ability of the supervisor, the quality of the instruction given, the intelligence and sympathy of the regular teacher, the condition of the schoolroom, the amount of money allowed for gymnastic purposes, the cooperation given by the community, all help to make or mar any system.

In order that our work may not fail in being systematic, we have endeavored to apply certain tests of qualifications which seem to us necessary in a system of physical training.

(1) Is it based upon the needs and laws of the human body?

(2) Does it aim to secure a good carriage, a symmetrical and harmonious development, and the power to make the best use of the body in the everyday acts of life?

(3) Is the whole a unit or entirety, with dependent parts joined for definite purposes?

(4) Are the parts sequential, proceeding from the simple to the difficult, and aiming at definite and related results as the work advances?

(5) Is it graded, so as to be adapted to the age of the pupils?

The exercises lead from those which are simple to those which are complex. An exercise often forms the basis for another which is to be given in a following lesson. Later in the year simple exercises are combined. Thus, the year's work by progression makes one connected whole, one part being dependent on another.

METHOD.

Each lesson consists of a series of distinct exercises, each having a definite purpose, the whole bringing into action all parts of the body. Each exercise has its definite name which suggests the movements to the child. This name is given to the class by the teacher and becomes a preparatory command, telling the children what they are to do when the signals or commands for execution are given.

All movements are taken at words of command or on counts used as commands. In this way we are able to obtain precision in execution, so important from the standpoint of training, and secure the desired rate of movement. Each movement is repeated a number of times, sufficient to obtain full benefit from the exercise, but not enough to cause fatigue.

As the child works, he is led to think that here is an exercise which is good for him; that in order to derive the greatest benefit from it he must do it in just the right way. Thus the mental attitude is different from that of the child in a memorized exhibition drill whose mind is burdened with remembering the number of movements to be taken in a certain direction and the number of counts to be made at a given pause; nor is the state of mind that of strained expectant attention as to what word of command is to come next, with the dread of failure to hear and execute instantly.

The whole work is carried on not for the sake of drill, but as a means to an end. Exercise is not an end in itself, but one of the means by which body and mind are enabled to function at their best.

NOMENCLATURE.

In naming exercises and in the use of words for commands, or to express direction of movement, we have used good English expressions and have avoided unnecessarily technical gymnastic terms. A nomenclature has been settled upon which answers all purposes and yet is not obscure to one new in the work.

GRADED COURSE.

It is absolutely essential to the permanent success of public-school gymnastics in a large city that the course be thoroughly graded, corresponding with the years of school work, and that the exercises change with the growing powers of the child. When a boy passes into a higher grade he does not want to repeat in the same way that which he did the year before.

It is only after years of careful discrimination and much thought that this has been accomplished. Beginning at first, in 1889, with three divisions, it was not until last year that eight grades of work were instituted. This means, in the future, eight years of varied work for children passing through our schools from the lowest grade to the high school. These years from 1889 to 1896 have been the transition stage between the introduction of physical training and the formation of a broad working basis for all future efforts.

All schools of a certain grade throughout the city have the same work which is done at about the same time of the year. In this way uniformity is secured and the work as a whole kept well in hand.

All eighth-grade pupils exercise with dumb-bells, all seventh-grade pupils with wands. Sixth and fifth grades take fancy steps in connection with the regular exercises. Fourth and third grade children have free-standing exercises, while the work of the second and first grades has greatly the element of play.

No matter what it may be, a course of gymnastics should be such that changes may be easily made as the work grows and conditions vary. It must be adjustable in order to meet future contingencies. If we would profit by the late discoveries and results of scientific investigation in the domain of physiology and psychology, our course of study must be elastic and capable of change whenever demanded.

PRIMARY PLAY WORK.

The physical exercise of the youngest children are playful in character. It has been our desire to form a connecting link between the plays and games of the kindergarten and the precise gymnastics beginning in the third year. The children use their imagination and act out a connected and consistent story in a series of body movements which have been within their daily experience outside of school yet make good gymnastic exercises, bringing into action all parts of the body. The story selected is one which will arouse interest, as one connected with Christmas, or a trip into the country. It is in keeping with the season of the year and the natural sequence of events. The entire lesson becomes one of happy delight, yet at the same time follows the principles of systematic body training given in the higher grades. Action, imagination, and imitation are the chief characteristics of this play work.

In this way are brought forth the natural movements of childhood, and at the same time is secured that coordination of muscles highly desirable in all gymnastics for the young. Allowance is made for the inability of small children to make movements with great accuracy.

Large movements involving large muscles are sought above all others as being the best for young children. Much of school work being necessarily an exercise of the fine muscles of hand and eye, we specially need such movements to counteract any evil effects.

Such work is not alone the spontaneous activity of play, but play directed toward educational ends. Activities and emotions are turned into those channels which lead to the physical, moral, and mental well-being of the child.

In connection with each story and supplementing it is a little play or game having gymnastic value. Good games in which all can join, which bring into action large muscles, and which can be played in the schoolroom, are rare, and tax to the utmost the inventive powers of those having the work in charge.

BEAN BAGS.

All children of the second grade have been supplied with bright red bean bags five inches square, made of galatea cloth. These give to pupils something with which to play. The bags are placed on the floor and jumped over, tossed in the hands, thrown to partners, and in connection with them there have been invented many excellent exercises and attractive games.

WANDS AND DUMB-BELLS.

Three years ago, at an expense of \$1,200, all eighth-grade schools were furnished with dumb-bells and all seventh-grade schools with wands. It is the opinion of the school authorities that the success attending their introduction amply justified the expenditure. Although the extra weight moved is small, the contraction of the muscles becomes stronger, and added force is given to the movement which at the same time is taken with more determination. Interest and enthusiasm come to the child from handling something. This piece of light apparatus becomes to him a plaything. Pupils in the lower grades feel that they are working up to something higher. Their exercises lead up to the proper handling of the wands and bells. As in the free movements the plan of having distinct hygienic exercises is followed in this work.

It has developed that the number of good exercises sufficiently varied, which can be taken between the desks with wand or dumb-bells in the hands, is great. By the use of the side position, diagonal position, by alternation, and by increasing the distances between children, the number of exercises invented has been greater than could be taken in the amount of time allotted during the year.

The dumb-bells are arranged in pairs around the room under the black-board, each being supported by a small iron hook screwed into the

wood and holding the ball of the bell in its socket. One large rack holds all the wands. In order to obtain these the pupils walk in line around the room and without losing step each pupil grasps his wand or bells. These are replaced in a similar manner. This means that the pupils in these classes receive daily practice in a good carriage of the body while walking.

FANCY STEPS.

A special feature of fifth and sixth grade work in connection with the regular physical exercises, consists of fancy steps taken when walking in line around the room or in the halls. This work grows out of the walking lessons which are frequently given in the lower grades. Besides being excellent exercises for the legs, these steps tend to develop grace and ease of movement. The rhythm is specially pleasing to the children and increases their delight in the exercise.

VOICE WORK.

A thoroughly planned course of exercises for the improvement of the speaking voice was introduced two years ago into the third, fourth, fifth, and sixth grades. It is in these grades that most effective work can be done to break up bad habits of speech. A few minutes immediately preceding the regular physical exercises are devoted to the enunciation of words and sentences, including exercises for articulation, tone, and pronunciation.

Such work naturally connected itself with the regular physical exercises, because the natural deep breathing and good positions taught are most favorable to good tone production, while the physical condition of the child affects his quality of tone.

Nasal or throaty delivery of words, bad pronunciation, and general indistinct enunciation, which may consist in defective articulation, running words together, or mumbling, are all common faults of the schoolroom which we have attempted to eradicate.

The voices of most children are naturally sweet and beautiful. It is our work to keep them as they are, and to prevent, as far as possible, harsh tones which are likely to be unconsciously imitated. Most essential is it that the teacher set her class the example of a good pure tone. We believe that the best voice training for children resolves itself into a training of the ear. The child should learn first of all to hear his own voice and appreciate its quality, then by imitating the good, the best in him is likely to follow.

This effort toward better schoolroom voices has the tendency to make the teacher critical at all times during the day and feel responsible for carelessness on her own part as well as on the part of the children.

There is great room for improvement along this line of work. Of the need and value of such drill, teachers have frequently spoken, so that our efforts in that direction have been appreciated. We believe that after a few years of practice, and with better knowledge on the

part of the teacher as to how to teach this new line of work, the results will tell for the good of the voices of our children in ordinary conversation and public speaking.

PRACTICAL APPLICATION OF WORK.

Teachers have been impressed with the importance of making a practical application of the lessons in rising, sitting, standing, walking, ascending and descending stairs, by insisting on the best when any of these movements are taking place in the regular conduct of the school. It is only by such daily practice that good habits are formed. Pupils passing down stairs walk in line, keeping step if the principal so desires, but unlike the stiff marching encouraged by the loud beat of a drum.

Constantly to encourage and hold a pupil up to that which he knows to be the best, is a labor of great patience, requiring most faithful attention. The burden of this work falls upon the lower-grade teachers, in whose schools habits are forming.

The greatest freedom is permitted in regard to positions while sitting, provided that any chosen position be not an unhealthful one nor so constantly assumed as to be injurious to the symmetry of the body. By frequent changing, relief is obtained from the constraint of the sitting period. Lack of variety in position while sitting, even for a comparatively short length of time, with its enforced inactivity, is the source of great weariness to the child, affecting his mental as well as physical development. For this reason the one best sitting position is insisted upon only during the writing period and gymnastic exercises.

SUPERVISION.

We have, under the direction of Superintendent Powell, a school attendance of more than 30,000 children. All of these pupils receive the benefit of systematic daily exercise, the work being carried on in every schoolroom of the city and in the county, with the exception of a few small buildings which are difficult to reach.

A corps of special teachers of physical training, consisting of a director with five assistants, give instruction to each class, which is visited regularly once in every twenty school days. Each special teacher has a number of school buildings under her charge during the year, for the work of which she feels responsible. Upon the occasion of her visit the regular teacher willingly reviews a part of the previous lesson, then follows the teaching of the new lesson, consisting of an entire set of new exercises. In this way one-half hour or more is spent once a month in each room.

Merely giving exercises to the class is not the entire work of the specialist. Her whole purpose, to which all effort is directed, consists in teaching the teacher, of which presenting a model lesson is but one part. A few minutes spent in reviewing by the regular teacher gives the

special teacher an opportunity to see the quality of work done daily. She thus learns wherein the teacher needs assistance and finds out weak points of class work to be specially strengthened. After the little review, helpful suggestions are made quietly to the teacher. If more time is needed, the giving of these suggestions is delayed until recess time. It is from the work seen that a record is kept of the teacher's work, by which from time to time progress can be noted.

A sheet of paper containing printed directions in regard to the lesson is left with the teacher. This sheet gives the names of the exercises, the average number of times each exercise is to be taken, the signals or commands to be used, and the definite directions in regard to the manner of execution. By means of this the regular teacher is able to carry on the daily work without falling into errors. The directions are there, to be referred to when any doubt arises in regard to the exercises. She feels that she has definite work to do, which to the average teacher is a gratification.

Before the special teachers start out to teach a new set of lessons the director spends two half days teaching these lessons in all grades for the observation of the five assistants. Many of these exercises may never before have been tried in the schoolroom. When these lessons are over a consultation is held in regard to the same, the work studied from all points of view, the method of teaching noted step by step and suggestions freely offered, so that each teacher starts out on her work having obtained the best thought of the entire corps. One day is spent by the director with each of her assistants, observing their teaching and making helpful suggestions in regard to the same. Thus no pains are spared to make the teaching as effective as possible.

MEETINGS OF SPECIAL TEACHERS.

The special teachers meet after school on Tuesdays to consult in regard to everything pertaining to the interest of this department and report the condition of schools visited during the week. A record of the observed work of each teacher visited is reported as being "very good," "good," "almost good," "fair," or "poor." These meetings are valuable in securing united and sustained effort along any line of improvement. By means of them the director is able to keep in touch with the actual work done by each teacher in the District, to know the teachers who need her special help, so that when visiting a school building she is enabled to spend her time more effectively in bringing the work of all the schools up to an equal standard of excellence.

TEACHERS' WORK.

The value of the work as a whole lies in the actual daily work of each teacher. For this reason when visitors come to see our physical exercises the regular teacher is requested to show what the children do under her guidance.

By request of the supervising principals a report was made to them at the end of the year showing the standing of their teachers. This report showed the average work of each teacher during the year. Of the 560 schools reported 19 were poor, 75 were fair, 146 were almost good, 258 were good, and 62 were very good. We have endeavored to make the terms as usually understood express the actual quality of the work. Since those "almost good" were quite satisfactory, the number of teachers who did satisfactory work was 466, which constitutes 83 per cent of the whole number reported. This is a record of primary as well as higher grade schools.

Too much can not be said of the cooperation which has so generously been extended by the teachers, without which all our efforts would have been in vain. As a class our teachers are young, enthusiastic, and intelligent, for which reason the introduction of a new department in the schools was not the uphill work it might have been under other circumstances.

NORMAL SCHOOL.

The professional training of the normal class consisted of two parts: First. Weekly talks by the director on the principles of physical training, preceded by a study of the physiology and anatomy of the human body, and particularly of the nervous system as a basis for psychology. These talks treated of all related subjects included in personal and school hygiene and the relation of physical training to other work of the school. Second. Observation of model lessons, practice in teaching the same, and discussion of everything pertaining to the art of teaching. These model lessons were given in the practice schools by the director for the observation of all pupil teachers.

Each pupil teacher had sole charge of a class in physical exercises for a period of three weeks, at the end of which time she gave a lesson for the critical observation of the director and whole normal class. Immediately after each lesson the work seen was freely and fully discussed by all, in the normal-school room. Pupil teachers told what they had observed, the good points being first noted and reasons given for commending the same. Next followed unfavorable criticism, with helpful suggestions for improvement in regard to method and manner. By frequent questioning the principles of body training were constantly reviewed.

It has been the plan of the normal school to assign to each critic teacher certain subjects for her special attention. By this arrangement work in the normal school was strengthened by the daily criticism of a critic teacher who was able to correct errors as soon as noted.

RECESS PLAYS AND GAMES.

Plays and games form a necessary part of any general system of physical training. They supply the element of recreation. Play has the hygienic value of securing the greatest amount of physical work

with the least expenditure of mental effort. Gymnastics do not take the place of play, nor does play take the place of gymnastics. For a perfect system of physical training the two should go hand in hand.

Since the conditions of the schoolroom are such as to make free play impracticable in the higher grades, it would seem that the best opportunity to obtain this recreation is at the time of the daily recess. In my last report I wrote concerning the school recess as follows:

A few years ago there was a movement in certain parts of the country to do away with the daily recess on certain moral grounds. It would seem wiser by special attention and supervision on the part of the teacher to improve the daily recess, than to do away with an institution which offers the very best opportunity for rest, recreation, and the spontaneous activity of play. Yet the school recess as carried on is capable of the greatest improvement. In many cases the teacher is absolutely ignorant of what her pupils are doing during this playtime. So far as observation goes, the children indulge chiefly in screaming and aimless romping, or else in moping and reading. Pupils could be taught certain games adapted to their age and to the circumstances, over which the teacher could have oversight without interfering with the spontaneity of the children. Children should be encouraged to bring their jumping ropes and balls to school. Many pupils would be willing to contribute bean bags, a bean board, jumping ropes, and stilts.

Whenever the weather permits, all such play should be in the open air of the playgrounds. A series of plays and games adapted to the different ages of the children can be obtained from the director of physical training. Having such guidance, knowing what can be done, how to do it, and having the means by which to do it, pupils can take the initiative and proceed according to taste or inclination, thereby making the daily fifteen minutes given for recess a period of physical profit as well as mental recreation.

Since writing the above I have collected from many sources some hundred plays and games which are adapted to the play room or playground. These have been roughly divided into primary, intermediate, and grammar. I propose to have these printed and distributed to the teachers. Principals of buildings who so desire can have the definite directions for carrying on the exercises which they may choose to teach. It has been suggested that the older pupils at first teach the younger ones games new to them. This is practicable, since we have all the eight grades in most of our buildings.

ADJUSTABLE DESKS AND SEATS.

Since 1895 all new buildings have been furnished with adjustable seats and desks, while in old buildings where worn-out furniture has been replaced by new the adjustable has been substituted. In some other rooms a few of these seats and desks are placed in the front or back of the room to meet the demands of children unusually small or large for the grade. This means that many children are now sitting, and that all are to sit, in seats and at desks which fit them. The seats are adjusted to the height of the knee, so that the feet can be placed flat on the floor. The desks are adjusted to the height of the body while sitting, so that the forearm can rest on the desk during writing without raising the shoulder or rounding the back. This sitting height

varies greatly in individuals who have the same height when standing, due to lack of proportion between length of leg and length of body. As a rule these desks are placed so that the front edge is directly over the front edge of the seat. This prevents the tendency to slide down in the seat, so common, and obviates the necessity of leaning so far forward when writing, yet admits of easy rising and sitting.

This nice adjustment of seat and desk to the child, obviating the necessity of assuming cramped abnormal positions specially harmful at the growing period, besides adding to his comfort, should be found in every schoolroom in the city.

VERTICAL WRITING.

There is some reason to believe that much of the spinal curvature found in adults has been produced by faulty writing positions taken in the schoolroom during the period of growth. This may have been due to the turned and twisted position taken when writing, to carelessness on the part of the teacher, or to bad-fitting desks and seats. Desks too high or too low, seats too high or too low, desks and seats not properly placed in relation to each other, all produce unhygienic, unsymmetrical positions of the body in writing which when constantly assumed tend to become fixed.

In vertical writing, as taught in the lower grades, the paper is placed directly in front, parallel with the front edge of the desk, the body is held square to the front, with chest up, and the bend forward is made at the hips. This is by far the best position from the standpoint of health. With the introduction of vertical writing, the gradual introduction of adjustable desks and seats, and care and patience on the part of the teacher, there is now no reason for bad positions when writing.

SEPARATED WARDROBES.

A first attempt was made last year to separate outer wraps in the cloakroom. This was done in the new Greenleaf School, of southwest Washington. A board partition, averaging eight inches in depth, entirely separates the clothing of one child from those of his neighbor. On the whole this is quite practicable and satisfactory, since it accomplishes the purpose of complete isolation, with a fair amount of ventilation. It is to be hoped that old buildings, as well as new ones, will be ere long provided with some such means of preventing the transfer of disease germs, as well as for securing greater cleanliness.

In investigating the subject I was unable to find any city in which separated wardrobes were in use in lower-grade schools. In high schools they are not uncommon. Even literature on the subject was not to be found among the best German and English writers of books on school hygiene.

The Narragansett Machine Company, of Providence, R. I., has been experimenting in this line and has placed on the market a wardrobe in

which the partitions curve in at the bottom to permit sweeping underneath, thereby preventing the accumulation of dirt. A slanting rack for rubbers is at the bottom, and a gutter to catch drippings from umbrellas or rubbers. Above the large hook for clothing is a slat rack for holding lunch baskets. The Pawtucket, R. I., school board has ordered 200 of these wardrobes for a new school building.

WATER FILTERS.

Two thousand dollars were appropriated last year for furnishing water filters for schools. The same amount has been asked for this purpose to be used next year, and it is hoped that this will be done yearly until each building is supplied. Children fortunate enough to attend buildings in which these filters have been placed are enabled to drink pure water, which in most cases it would be impossible to obtain at home.

MEDICAL INSPECTION.

I wish to assist in urging systematic daily medical inspection as a means of improving the physical condition of the child in school and reducing the possibility of contagion. It needs the critical eye of a medical expert to detect cases of nervous disorder, low nutrition, and diseases in their incipient stages. At intervals of at least one year examinations could be made to discover imperfect vision or defective hearing. All cases should be called to the attention of the parent, with advice in regard to the same, and referred to the family physician. There need be no conflict with the family physician if sick children are merely sent home. Professional treatment ought to be received at the home, the hospital, or the dispensary.

Such work can be most effectively carried on by the board of health, as in the plan adopted in the city of Boston, to which reference was made in your previous report. The physicians visit each day every school in the city and report the same daily to the board of health. It is highly necessary that the men chosen for such work be not only competent and disinterested physicians, but that they be at the same time experts on the whole subject of school sanitation.

PEDAGOGICAL LIBRARY.

At the Franklin school in the pedagogical library, which is of only three years' growth, our teachers have access to many of the best books on physical training and related subjects. The selection was not only carefully made but is quite complete. Much of our latest and best material is to be found in pamphlet form, being reprints of articles found in medical and educational journals. Certain reports of State Boards of Health and public documents containing valuable articles bearing more or less directly on this subject, have been laboriously collected. Full sets of reports of the American Association for the

Advancement of Physical Education, also of the Pedagogical Seminary, have been specially bound for preservation. The Physical Education Review, the Pedagogical Seminary, the Gymnasium, and Werner's Magazine are regularly subscribed for by the library. With such a wealth of material, any teacher so desiring has the opportunity to keep abreast of the best literature on the subject this country affords.

BIBLIOGRAPHY.

The city of Washington presents such unusual library facilities for one working in the special study of a subject that I have taken advantage of the opportunity to make a collection as complete as possible of all which I could find in English bearing on this subject, the same to be a contribution to the bibliography of physical training. The names of all articles to be found in the Boston Public Library, the library of the Surgeon-General, and of the Bureau of Education have been collected. The subject, with its author and reference, is written on duplicate cards, making two sets, these arranged alphabetically, one with regard to the subject, the other with regard to the author. By means of such a bibliography one is able to trace the history of the subject in this country and England, and speedily to refer to what has been written in English on any branch of the general subject.

SPECIAL TEACHERS.

There is no doubt that the strength of our work consists in the personal contact of the special instructor with the teacher and her class. Schoolroom suggestions and criticisms are the most effective means of securing the best results. The special teacher learns to know her pupils as individuals, and takes a friendly interest in each. She is enabled to advise and cooperate with the teacher in all those cases which, from the standpoint of health, call for special attention.

It is with deep regret that I report the death from typhoid fever of Miss Mary L. Squier, my first assistant, who began the work with me and who had seen it grow yearly from its earliest form up to the present. Seven years of faithful work were devoted to the interests of the public-school children of Washington, who upon her death expressed their sorrow in all possible ways. This expression of feeling gave evidence of the strong ties of love and friendship which can exist between a special teacher and those who come under her influence. The vacancy caused by the death of Miss Squier was filled by Miss Sarah A. Green, a teacher of some experience in this line of work in the West.

The schools of Washington are specially fortunate in having selected for them a corps of specialists commanding the respect of teachers and all with whom they come in contact. A spirit of harmony exists among them which smoothes all lines of work. I wish to call your attention to the efficient work done by Miss Zue H. Brockett, who has been an

instructor for seven years; also that of Miss Ruth M. Oberly, who was appointed two years later; and Miss Rose E. Holmes, who has completed her fourth year. Their efforts have been earnest and sustained. Besides being faithful workers they are intelligent students, ever on the lookout for that which will be to the best interests of the pupils under them.

It has been my pleasure to form and maintain close relations with supervisors of physical training in other cities and their work, to know what is being done abroad, to keep in touch with the latest and best literature on the subject, to assist in developing the Physical Education Department of the National Educational Association, and, as a member of the Association for the Advancement of Physical Education to cooperate with others in all matters furthering the interests of physical training in this country.

CONCLUSION.

It is impossible to test the full measure of success or failure of our efforts. It is in the remote future, with school days long past, that the lasting influence of such work will be felt by the individual child. That the bodies of our children in school are better formed, better carried, and more gracefully used there is no doubt. The special teacher is invariably able to pick out the child who has not received previous training in this work. The improvement has been so gradual that it is doubtful if we appreciate how much has been accomplished in the last eight years.

In closing I wish to thank all supervising principals and teachers for their sustained interest, without which all our efforts would have been in vain, and also yourself for your generous support in all efforts to advance the work.

Respectfully submitted.

REBECCA STONEROAD.

MR. W. B. POWELL,
Superintendent of Schools.

REPORT OF DIRECTOR OF MANUAL TRAINING.

WASHINGTON, D. C., June 30, 1897.

During the last twenty years the subject of this report has occupied much of the thought of educators everywhere, but probably nowhere so much as in our own country among those engaged in the public schools. City superintendents and boards of education, county and town officials, one and all, have been interested attendants upon discussion and experiment. In the annual sessions of the National Educa-

tional Association the subject has been broadly discussed, while in the meetings of the department of superintendence especially it has been brought forward very prominently and very often, all phases of it receiving exhaustive consideration. The annual reports of the United States Commissioner of Education have devoted considerable space, at first to general discussions, and later to regular statistics. State legislatures have instituted commissions charged with the duty of investigating and reporting upon it as a subject of general education, as well as upon its existing status where already introduced. As a result of such investigation and report in one State, all cities of 20,000 or more population are now required by law to provide instruction in manual training in their high schools.

Private individuals have been quite as progressive in investigating this form of instruction and in furnishing the means for placing it within reach of the youth of their towns or cities as has the larger body of their fellow-citizens. Some of those who have thus studied the problem in either a public or private capacity have published the results of their investigations, so that there is already, in addition to public documents, quite a large number of books and pamphlets, besides many articles in periodicals, relating to it in some one or more particulars. All which has been thus summarized simply emphasizes the fact that the atmosphere of educational affairs, as far as pertains to the public schools, has been permeated for many years with manual training ideas, which in very many cases have found embodiment in various forms, and have resulted in the incorporation into public school work of certain features which are becoming more and more deeply rooted in favor as their possibilities become better understood and appreciated.

When the nature of much of this manual work is considered, together with the way in which attention was first drawn to it, it is not strange that misconceptions arose as to its scope and aims. Nor is it other than natural that in working out the problem the results should differ widely, so much so as to tend to the confusion of one who approaches the subject for the first time and at the outset seeks a definition of the term. It may therefore be interesting to look at the beginnings of the manual training movement, then at its subsequent growth, so as finally to see it as it exists as a distinct institution in our American schools. To do this will afford a better understanding of what manual training is and what it means, while with an adequate knowledge of its history its future can be watched more intelligently. We shall find that a definition which was at first comprehensive has become too narrow to satisfy present conditions, while it is believed possible to show that the newer forms of manual training are as well deserving of the name as are any of the older ones whose right has never been questioned.

At Moscow, Russia, a trade school had existed for nearly a century, when, in 1860, it was reorganized, and thenceforward became known as

The Imperial Technical School, an institution for the training of government engineers. As a trade school it had required well-equipped shops, which had been conducted upon a commercial basis. In these shops, therefore, the apprentices worked upon commercial products, presumably upon the simplest and least difficult at first. Under the new organization of the school the same system of shop instruction was continued for several years. It was not long, however, before the director of the school, M. Della-Vos, believing there were serious defects in this method of imparting instruction, set himself to the task of devising a better way. His solution of the problem has given us the "Russian system" of tool instruction.

What is this system? In the director's own words, he "separated entirely the school workshops from the mechanical works in which the orders from private individuals are executed." This was done "in order to secure the systematical teaching of elementary practical work, as well as for the more convenient supervision of the pupils when practically employed." "By the separation alone of the school workshops from the mechanical works the principal aim was, however, far from being attained; it was found necessary to work out such a method of teaching the elementary principles of mechanical art as, firstly, should demand the least possible length of time for their acquirement; secondly, should increase the facility of the supervision of the gradationary employment of the pupils; thirdly, should impart to the study itself of practical work the character of a sound, systematical acquirement of knowledge, and, fourthly and lastly, as should facilitate the demonstration of the progress of every pupil at every stated time. Everybody is well aware that the successful study of any art whatsoever, free-hand or linear drawing, music, singing, painting, etc., is only attainable when the first attempts at any of them are strictly subject to the laws of gradation and successiveness, when every student adheres to a definite method or school, surmounting, little by little and by certain degrees, the difficulties to be encountered." "To the Imperial Technical School belongs the initiative in the introduction of a systematical method of teaching the arts of turning, carpentering, fitting and forging." This was in 1868, and soon thereafter all the technical schools of Russia adopted the new system.

At the Centennial Exposition at Philadelphia, in 1876, the technical schools of St. Petersburg and Moscow exhibited cases of models resulting from and illustrating this new method of teaching the principles of mechanical construction.

To the Philadelphia Exposition went Dr. John D. Runkle, then president of the Massachusetts Institute of Technology. He had long realized the fact that the young mechanical engineers graduated from the institute were lacking in a well-rounded training, in that they got no practical knowledge of the materials of construction with which they would be called upon to deal in the actual practice of their pro-

fessions. He was occupied with the problem of remedying this defect when he visited the Exposition. He says:

Almost the first thing I saw was a small case containing three series of models—one of chipping and filing, one of forging, and one of machine-tool work. I saw at once that they were not parts of machines, but simply graded models for teaching the manipulations in those arts. In an instant the problem I had been seeking to solve was clear to my mind—a plain distinction between a mechanic art and its application in some special trade became apparent.

My first work was to build up at the institute a series of mechanic art shops, or laboratories, to teach those arts, just as we teach chemistry and physics by the same means. *At the same time I believed that this discipline could be made a part of general education; just as we make the sciences available for the same end through laboratory instruction.* [The italics are not Dr. Runkle's.]

All teaching has in an important sense a double purpose: First, the cultivation of the powers of the individual, and second, the pursuit of similar objects, by substantially the same means, as a professional end. Now we use our shops (laboratories) both for educational and professional ends. * * * In brief, we teach the mechanic arts by laboratory methods, and the student applies the special skill and knowledge acquired, or not, as circumstances or his inclinations dictate.

The shops to which Dr. Runkle refers were used not only by the engineering students of the institute, but, in the embodiment of the belief expressed in the italicized portion of the above quotation, also by the students of a mechanic arts high school which was founded by the Institute authorities. This latter school was the first manual training school in the United States. Thus to Dr. Runkle is accorded the honor of being the founder of manual training in America.

The teaching of the mechanic arts to technical students is for "a professional end"—for a knowledge of those arts. It should now be noted, therefore, that the "Russian system," which aims to do this, and which was exemplified by the exhibits seen by Dr. Runkle at Philadelphia, is not a system of manual training. The system devised by M. Della-Vos at Moscow is a system of tool instruction preliminary to and preparatory for the advanced technical training of an engineer. As such Dr. Runkle hailed it. As introduced by him at the Boston Institute it comprises all the shop instruction regularly given the students, while at Moscow it is always followed by work in the commercial shops. The point to be emphasized is this: While the Russian idea may be said to have been borrowed for the benefit of students of engineering, yet the discovery of its adaptability to the scope of secondary schools and its introduction into them as manual training were wholly American achievements.¹ In other words, the typical American manual training school of to-day is distinctly an American institution, and dates back to the founding of the school at Boston in 1877.

¹Although it is not of sufficient interest in this place to warrant a discussion of the point, it is believed that the first shop practice for technical students established in this country and conforming essentially to the Russian system was independent of any knowledge of that system, antedating its conscious introduction, and was therefore also an American achievement.

Work hereinafter referred to as "Russian" will be understood as meaning manual training based on the Russian idea of shop instruction.

This first school was discontinued after a few years, but the example thus set was not lost. The St. Louis Manual Training School was founded in 1879 as a department of the Washington University through the efforts of Dr. C. M. Woodward, professor of mathematics and applied mechanics in the university. As director of the St. Louis school Dr. Woodward has stood for many years as the leader of the manual training movement, and his school has served as the model for many others. As a class, these include new schools of high school grade, either public or private, and old schools of the same grade which have introduced manual work similar to that of the more distinctive "manual training schools." No list of existing schools of this class need be attempted; if complete now it would soon be useless, so rapidly are they coming into being. Indeed, it will soon be easier to list those cities which have no manual work.

The manual training school has thus been accounted for. Not all of those modeled after the first schools followed them in every respect; in fact, many modifications were made, as was necessary to suit different conditions, or as experience dictated. But in the main they were identical. They were secondary schools, and tool work in shops—teaching the mechanic arts with wood and metal as materials—was their manual feature. It was this kind of work, based on the Russian system, which attracted attention and became popular with the general public. It is therefore quite natural that, as the years passed and many schools were started, the term "manual training" should come to be understood as applying to such work as these early schools established, and which was, as indicated, nearly uniform in all.

In the meantime educators generally began to study the subject, as a result of which study it came to be much better understood what its content really was. It was perceived that it rested upon the same principles as the kindergarten, being practically an extension of that method and consequently general in character and application, rather than a distinct kind of instruction suitable for only boys of high school age. As soon as this advance was made the problem was upon the forms of work desirable for grades between the kindergarten and the high school, in order that the benefits might be for all pupils rather than for only those representing the extreme grades. By way of describing these intermediate forms, and in order to better understand them and the conditions of the manual training movement at the time they began to be brought prominently forward, it will be well to state briefly the facts relating to another system of manual training—the sloid or Swedish system.

Sloid started in Sweden perhaps two years later than the Russian method was fairly put into practice at Moscow. It embraced work of various kinds, and was a movement for the stimulation of the home

industries, which seemed likely to die out unless begun in school. Therefore it was utilitarian in character and aim, and it remained so for several years, or until Herr Otto Salomon, one of the first who became interested in the new work, demonstrated its general educational value in order to obtain the aid which was necessary to its maintenance. In 1877 he visited Finland, where Uno Cygnaeus, of the Helsingfors Teachers' Seminary, had instituted the first regular hand work for school children ever devised. Cygnaeus may have based the introduction of his work upon educational ideas, but in execution Salomon found that it had advanced but little "beyond the home industries stage, and it meant working at the rudiments of trades with no particular method." Upon his return to Sweden he commenced a study of the whole subject in the endeavor to make it purely educational. He discarded all forms of work except wood sloid, finding that material to be the most useful. The simple term "sloid" has since come to mean only work in wood.

The principles formulated by Herr Salomon, and published in 1884, disclose the scope and character of the work as they remain to day. The following are the most important:

- (1) The concentration on one form of sloid.
- (2) The making of useful articles and not articles of luxury, nor parts of articles, i. e., joints.
- (3) The teaching based on educational principles and the work methodically arranged.
- (4) Voluntary and individual teaching.
- (5) Positions to be chosen suitable for physical development.
- (6) Drawing and sloid to be combined.

As early as 1871 experiments were tried privately in Boston with work for young children. The character of this first work is indicated by the name, "Whittling School," which was given to it. In 1887 sloid was introduced, the original Swedish models being used. Owing to several opposing circumstances little success was attained until, in 1888, an experienced sloid teacher came from Herr Salomon's school and took charge of the work. This teacher was Mr. Gustaf Larsson, who bears the same relation to sloid in the United States that Salomon does in Sweden. Its success here is due to his insight and industry. His first work was to do away with the Swedish models so far as necessary to make those used interesting to American children. The success Mr. Larsson achieved led to the establishment of a normal training school, whence more than a hundred teachers have gone out to teach sloid, chiefly in the public schools of Massachusetts, but in considerable numbers to other sections of the country. Modified courses of sloid have been devised to suit both younger and older pupils, but no deviation from first principles has been permitted.

The difference between sloid and the Russian work, as may now be seen, is that the former deals with complete, useful articles only, while

the latter makes use of mere abstract exercises—joints and forms which illustrate principles. All American work under the Russian system includes the making of projects, which involve various applications of the principles illustrated by the previously executed exercise pieces and joints, and which also present problems incident to the assembling of the different parts. At first the working drawing formed no part of the Swedish sloyd, but after Mr. Larsson introduced it into his Americanized course it was adopted in Sweden, and is now recognized as a necessary element, so that in this respect the Russian and Swedish systems are alike.

It was quite natural and necessary that the Swedish models, these useful objects, should be very simple articles, not only because designed to be made by young children, but because they had very few tools to use, the knife being at first the principal cutting tool. Thus the models consisted largely of small, one-piece articles; there was very little construction, i. e., the joining of several parts, possible or at least practicable under the circumstances. In the case of the Russian, however, originated as it was for mature students, having access to many tools and who were to deal with problems of construction as a profession, it was equally natural and necessary that their work should be designed to teach the requisite principles of construction. We can thus see why each system took the outward form it did, and why one system is better adapted to young pupils and the other to older ones, while the purpose of both is the same. It should be noted that hardly any two courses of work as carried on in this country under either system are alike in detail, but the aim and final effect are the same in all. It can be readily understood how the Russian work, by virtue of its more apparent bearing upon carpentry and joinery, should have been the first to find favor with the masses, as has already been intimated was the case, and should exhibit the most rapid growth.

This very apparent bearing of the Russian tool work upon industrial pursuits led naturally to a misconception of the true mission of the manual element in school work. It was favored, in large measure, because of its industrial trend, by those who saw no "practical" value in the usual literary high school courses. Undoubtedly many manual training schools, especially among those founded by private enterprise, owe their existence to this feeling—that they give a better preparation for life, in the same industrial sense, than any school work previously devised. Even among school men some of its most zealous supporters claimed recognition for it on this ground. Such advocacy, however, raised much criticism from the more conservative educators, whose soundest argument was against the propriety of applying public school funds, raised by general taxation, for any but the most general purposes. Forced to answer the argument or avoid it, the friends of manual training gradually united in urging it upon purely educational grounds, on a par with other school work. Supported in this stand, as they soon were,

by men of broad psychological reasoning, the way became clear for the rapid development since seen. But, in view of the experiences both in this country and in Sweden, it can hardly be doubted that the manual element in education to-day, no matter upon what system it is based or upon what grounds now advocated, so far as it exists in the form of work with the tools and materials used in trades, owes very much to the fact of such use, if not indebted to it for its very inception. It is the outgrowth of many years of protest against the general inefficiency of the old school curricula for the proper training of the great majority of youth.

When, therefore, a purely educative basis for the introduction of the hand work had been found—when it was accepted as a valuable aid in intellectual training rather than as a special preparation for manual employment, and, as the latter, suitable for only boys of considerable maturity—then, as before indicated, its value in the training of all children was perceived, and it became a question of suitable forms for the various grades not yet provided for, those between the kindergarten and the high school. Sloyd, from its similarity to existing work, was naturally one of the first to be considered, especially as it had already been tried and had made many friends. It has consequently been introduced into grammar grades, though a simplified form of the Russian work has also been adopted in these grades. But sloyd, simple as it is, involves the use of wood and wood-working tools, and while the work is of a very light character, it is not generally thought suitable for the primary grades, although some attempts have been made to adapt it there. Hence, still simpler kinds of work must be devised for them or a gap in the system will be left. Very little has been done for grades below the fourth, and some of the work in the fourth and fifth years is yet experimental and of doubtful value. In certain places a very simple form of woodwork has been carried as low as the primary grades; it is best known as “knife work.” Venetian ironwork has also been tried in these grades. All these primary forms are suitable for boys and girls alike, and the woodwork of the grammar grades or high school is adaptable in part to the latter. Sewing has been very generally favored for girls of all years above the third or fourth, and cooking for the upper grammar and high school grades.

The origin, growth and character of American manual training have been thus outlined as the best means of showing what it actually is. Having found what it is, it is time to see what it is for. What is its purpose? How does it serve that purpose? If these questions can be answered for the work in general, they will be answered for it as it exists in the public schools of the District. There will, however, be some additional observations to be made upon our own work in order to show more clearly certain features which, it is believed, make it a unified system, covering with equal care and thoroughness every year of school. It has been the purpose so far in this report to define manual

training by showing what it really is as it exists in material form. It will later be the purpose, after discussing the questions proposed above, to demonstrate that the work here is properly to be included in the definition.

"The child learns as much in the first five years of its life as in all the rest." "Youth is the period of sense ascendancy." These much-quoted sentences are very significant with respect to each other. The kindergarten and manual training are the answer which has been made to the question which, pointing to the facts thus expressed, the child asks of us—what then? Experimental psychology has shown us that the development of the brain cells are dependent upon impressions received through the senses. A dog, born and reared in darkness, has been found to be without brain development in those areas associated with the organs of sight. The seeing is in the brain, not in the eye, and if no sight is ever known by the brain, no use of those centers is made; there is no development, no power of sight. The rapid sketch artist and the skillful colorist are those of much sight training. Multitudes of sight impressions have been made upon the brain areas and great development has resulted, just as the constant exercise of a muscle means development—means increased power to do with that muscle. So the brain of the artist becomes wonderfully acute in seeing, in discriminating, in forming judgments with respect to this kind of sense impressions. The "ear" of the trained musician is able to discriminate similarly with respect to tones—sound impressions—with a nicety born of such inspired practice as only artists can know. The blind unfortunate must rely upon his other senses to execute in some measure the function of that which he lacks. Through his finger tips does most of his knowledge of external objects come. The nerves carry to the brain the host of impressions, and in these centers again does the development occur which we call a "marvelously delicate touch," brought about by long and constant practice, where the lack of the usual number of other impressions permits extraordinary concentration upon this one kind. Driven by the ever-present instinct toward self-preservation, transmitted for unnumbered generations, wild animals possess powers of smelling and hearing impossible to man. The connoisseur of the wine cellar, the professional taster, illustrates once more the possibilities of faculty training through the avenues of sense.

It is evident that the senses play an extremely important part in the development of the human brain. Take away, as in the case of the dog already cited, all possibility of receiving sensations from the external world, and there is no brain activity, no development, no knowledge, no mental power—no mind. The physical member not used wastes away, but with use it becomes the limb of the athlete. The brain is a physical member and shares the common necessity of all, that of use.

The young child shows the innate instincts impelling it toward development. It is a bundle of activity from the first, kicking and thrust-

ing strength into its legs and arms, and grasping it with its tiny hands—unconscious calisthenics. Light has always attracted it, but soon the brighter light is perceived, across the room it may be, and out go the hands in futile attempt to reach it. Or perhaps it is a shining object which the fingers are able to reach—two senses are now at work. This early natural tendency to grasp, to handle, is paramount. It increases as the child grows; he is not content to see, merely, he must touch, for in that way more than in any other has Nature decreed that he should learn the things around him. His sense of touch is therefore the most important of all. His natural tools, the hands, chief agent of this sense, are the characteristic of the highest order of beings. From birth, therefore, the child's senses are his teachers; by means of them alone he learns. From hand and eye and ear the messages are brought to the brain, all portions of the surface of which are affected, each by its own set of disturbances. Development in these areas follows these sense excitations. Mind being a function of brain surface, "the sum of this development is intelligence," and intelligence means power.

In gymnastic training the selection of apparatus and forms of exercise is not left to chance or fancy; a wise direction is a recognized necessity to the securing of the maximum of benefit. Similarly, although the child will obtain for himself much unconscious development through his natural inquisitiveness, coupled with the customarily great physical activity of childhood, yet the results are merely the furnishing of an outlet for impulse; they are not such as tend strongly toward the laying of a suitable foundation for future culture. As in physical training, so here wise direction is needed with this latter purpose in view. To give this direction is the business of the trained educator.

True education may be said to be the placing of the child amid surroundings most favorable to this natural order of development. If this order is supreme during the early years, and if the hands are the most useful agents in aiding development, we have at once a psychological basis for the simple manual occupations of the kindergarten and the primary grades. The prime mission of this hand training is not, therefore, the acquirement of manual skill, not the varied knowledge imparted in the processes, but actual brain development, mental culture.

The selection of ways and means for accomplishing this highly important result is not a simple problem. It has been shown that mechanic-arts instruction for pupils of secondary schools was the first form of educative hand work which was adopted in this country. It was believed to promise this general intellectual training. This instruction was given upon more or less stubborn materials, with numerous difficult tools, and consequently its field appeared limited. Something must be devised or adopted which was suited to the earliest grades of school, for the possibilities were greatest there. It is believed that a most happy solution of the problem has been effected in Washington.

It is a practical continuation downward of the mechanic-arts instruction found in the upper grades and high school. If this is educationally correct and effective in these advanced years, it should also be when fitted to its place in the lower grades. Such has experiment proved it.

The materials for this instruction were found ready at hand, with the possibilities all potential, needing only to be appreciated. These materials consist of the clay, tablets, sticks, paper and cardboard, which had already done so much to enrich the work in drawing. Correlation of drawing and manual training was not far to seek here, for the two subjects are almost a unit; indeed, they might be so considered by saying that the work with the materials named has a dual object—the manipulation of them in form study is manual training, while the results furnish a true basis for drawing.

The working of the clay results in the production of forms, the common geometrical solids, such as the sphere, hemisphere, cube, prisms, etc. As standards or types of these forms each child has small wooden models to study. He studies them in part by handling them, some of the time with the eyes closed, thereby learning how they feel. The sizes of the models are important; they are small because it is required that the finger ends, where the tactual sense is most delicate and where it is most susceptible of development, should be used almost exclusively in this handling and in the subsequent working of the clay into the form studied. The sense of touch is the guide to the muscular effort expended in giving form to the shapeless mass of clay. The mind must sit in judgment upon the results at each moment, else proper progress will not be made. This means concentration of the attention; the method of working and the result desired must both be kept constantly in mind. This close attention is to a great degree voluntary. The type form is before the pupil and is used for frequent comparison with the clay in his hands. He learns to discriminate as to size, proportion, form and finish. This work in plastic material is akin to free-hand drawing, permitting even greater freedom; there is no restraint except that imposed by self.

It will be observed that no mention of tools has been made; their aid has not been invoked. One great factor in the value of this early work lies in the fact that the fingers and the material are in immediate contact. Under these conditions the sense of touch is most efficient in giving aid to eye and muscle, and is itself in position to receive the most delicate development. It would appear logical to put off attempting to teach the use of tools until the child's bare hands have been trained. Without tools fewer muscles are called into use at first, and those are for the most part such as have been from infancy coming more and more under control. Thus the problem is simplified for the child; he may devote himself to learning the principles of shaping and finishing his material unhampered by the disappointment of failure.

which may result if too much is asked of him—if he is forced to make mental grasp of these principles and at the same time physical grasp of an unfamiliar tool. He should not be expected to feel delicately with and through a tool until he can do so without one.

Put the tool, therefore, into the trained hand, the hand which has had its natural endowments recognized and cultivated. Then the tool comes as an enlarged opportunity, and its mastery becomes a simple instead of a complex problem. The clay modeling of the first, second and third grades, and much of that of the fourth, fifth, sixth, seventh and eighth consists of this work with the bare hands. In those grades last named a few of the simple, wooden tools are introduced as needed in the different methods of working the clay. What these methods are, and their relation to the work in drawing, in art training, are set forth elsewhere, but it is proper here to speak of the importance to both subjects of this intimate association of drawing and manual training. It is worthy of attention merely on the ground of economy of time and material, but much more so because of the greatly enhanced interest each gains from the other when intelligently correlated. Perhaps the manual side of the work is the greater debtor.

Another form of work for these grades is the tablet and stick laying. This is a very necessary link in the scheme of form study, and though relatively a minor part of the manual work, it still is able to lend its aid. The tablets and sticks are handled with thoughtful precision, the laying being conducted carefully, in accordance with the predetermined plan. There is a greater nicety of muscular control necessary than in the previous clay work, but it is well within the powers of the child to acquire, and if mistakes occur the correction is so easy that the discouragement of failure is not felt.

The paper folding, which follows in its turn, forms another step onward. Its greatest manual value is found in the opportunity it presents for teaching accuracy. The clay has been found crude and unstable, accuracy in method of handling being all that can be insisted on at first. The tablets and sticks are similarly unstable. The paper, however, is a willing material, and once conformed by the child's effort it remains fixed. It is at the same time capable of being folded with the utmost precision, every step having its reliable guide, so that neither material nor manipulation present undue difficulty, and accuracy of result may be secured.

As an extension of the paper folding, cardboard construction is taken up in the fourth year. This is made possible by the corresponding progress of the related work in drawing, which has led to the working drawing, and the development of solids. This work is of the greatest significance to the subsequent manual work. In it are involved in simple form the essential principles of projection, so often the bugbear of the mature student. By it the actual relation of the working drawing to constructive work is illustrated, thus preparing the way for the more

advanced construction with tools in wood and metal in the higher grades. Thus the step forward to these materials and tools may be seen to be merely an advance upon the same line. The principles involved are old, only the materials and agencies are new to the pupil.

This feature of our manual training can hardly be too much emphasized, and must be clearly understood to afford an appreciation of the entire system. Commencing with clay, a material offering no resistance to the child's will and of such a character that overstraining in the attempt to secure accuracy and injurious restraint of the child's freedom of self expression are alike impossible, the progress is through the tablets and sticks, where accuracy of muscular control is somewhat more easily attainable and more manifest in the results, and then on to the paper folding, where accuracy of method leads readily to almost absolute accuracy of accomplishment. Identical in kind but more difficult in degree, the cardboard work follows, introducing new principles which, in turn, continue naturally, as indicated, into the work in wood and metal. And in the earliest work where only the natural tools, the hands, are needed, through that which requires the simplest of tools—hardly more than a sharp stick which the child might almost fashion for himself—little by little does the hand become trained to measure pressure, to gauge movement, to grasp effectively, in short, to feel in the fullest physical sense of the term. Then, and not until then, is it prepared to take up the many and differing tools of the various industries and use them with economy of time and effort and with the best educational results.

The bearing of this primary work, as thus indicated, upon the later tool work is not a matter of fancy; it has been clearly demonstrated during the last ten years. In the beginning, the boys who received tool instruction were, in school experience, two years in advance of those now taught the same grade of work, but the results now reached regularly by the average pupil were then not possible to one in fifty, and were not for several years; not until those who had received the primary training progressed far enough to reach the grades where tool work is taught. In the other forms of work, especially in the clay, similar results have been experienced; better work is now accomplished in the sixth grade than formerly could be obtained in the eighth. To say that the work is better organized, and the teachers more experienced, does not affect the truth of the claim in great measure; there is as well organized work and there are as experienced teachers where there is less system—and less result. The latter is testified to by those who have had opportunity to know.

Emphasis has thus been given to our primary work because, as intimated early in this report, it has been held by high authority in manual training matters that such work is not properly called manual training. The idea that manual training must mean tool work has become so prevalent that to include in it work without tools is regarded as etymological trifling. The question arises, therefore, Is this primary work

manual training? It is at least manual or hand work. If it is instruction in the mechanic arts, it is allied to those forms readily accepted as manual training. The mechanic arts may be defined as the arts of transforming rough material into articles of use and enjoyment. This transformation involves the changing of the size or shape, one or both, of one or more pieces of crude material in accordance with predetermined design. The nature of the material and the modifications required to be made determine in any case the method of procedure and whether or not tools are needed, and if so, what the size, shape, and character of the latter must be. Construction, or the securing in place or together of the modified forms, is also involved.

The mechanic arts are essential, therefore, in the production of every material, artificial form. This form may be for the most abject utility, or it may be an ennobling embodiment of fine art. Hence, the primary work discussed is, in simple form, mechanic arts teaching. If it is a distinct preparation for, and aid to, the conceded mechanic arts instruction of the upper grades, it must be like it in principle. That it is such preparation and aid has, it is believed, been shown.

The manual work for boys of the six years from the seventh grade to the last year of the high school, inclusive, is distinctively tool work, very similar to that of most of the manual training schools of the country, and therefore chiefly Russian in idea. In grades seven and eight there is a two-year course in bench work or joinery, though the work of each year is complete in itself.

The effort was made, when planning the course of exercises, to have the work as practical as possible. To plan it so was to make it difficult. As thus practical and difficult it has been criticised. This criticism arises largely through failure to appreciate the bearing our primary work has upon the tool work. Without the former we should be obliged to lessen the difficulties by making the work less practical, but with our previously trained boys we are able to take up the tool work in a natural and practical way. By this is meant to commence with the material in as near its natural state as the mechanic finds practicable, and to reduce it to the required condition by the use of such tools as the mechanic uses, taking them up in the order he must follow, preference being given always to strictly hand tools.

It is believed that it is as good manual training to thus conform to practice, while the knowledge obtained is far more valuable, because the boy will have nothing to unlearn should he ever engage in any vocation based on this school work. In some details it gives better training to depart from time-saving methods of work at first, but due attention is given to such matters in order that the boy may receive correct ideas. What has been said of the course in joinery is also true of the high school courses in wood turning, forging and machine work. The practical trend increases rather than diminishes as the boy advances through the kinds of work named.

In the wood-turning course of the first year of the high school the boy first comes in contact with power and machinery as aids in the execution of his plans. At the bench his control of the situation was undisputed and easily retained, but now a new agent stands ready to aid him, or, if he relax his vigilance for a moment, to upset his carefully laid plans with the rapidity of lightning, and almost as effectively. Under these conditions close attention and clearness of thought are indispensable to success. Following the course of exercises comes a large variety of vase forms of classic and modern design. No better way of studying these beautiful forms is possible than by thus making them. As a means of creating an interest in the subject, and as eye training simply, it is believed to greatly surpass the drawing of the forms in outline. Perhaps in no other kind of work are eye and hand required to be in as close accord.

However trying these conditions are, still more exacting are those under which the student works the following year in forging. At the bench and lathe the wood waits without loss until he is ready to act; he is not restricted as to time. At the forge, on the other hand, to hesitate is to see the opportunity slip away. The judgment must be formed, and action—bold, free and effective—must follow immediately. The position of the hot iron upon the anvil, the placing of the blow with proper direction and force all predetermined by the desired results, the noting of the effect, the new judgment preparatory to the next blow, must follow each other in rapid succession. It is mind and muscle opposed to stubborn material in a contest requiring rapid, energetic thought and execution. This imposes a severe strain, but the discipline is unexcelled. In none of the other forms of work are the whole mental and physical powers of the student so involved, nor is their unreserved application so necessary to success or so much evidenced by it. The forging is suggestive, in its method of treatment, of the clay work of the early grades, and when compared with that it bears witness to the great mental and physical development which has taken place in the pupil.

The final step in the system of educational handwork is the machine-tool work of the third and fourth years of the high school. Here again does the application of outside power complicate the problem, and the use of complex machinery still further adds to the difficulty. Accuracy is the keynote in this work. The possibility and the necessity of securing it to a finer degree than has ever before been hinted at gives a spur to the student's effort. Directive power is developed; the machine will execute, but the orders must be given by the intelligence of the operator, just as twelve years before he controlled the pressure of the finger upon the mass of clay. It is the same story of the tool acting upon material, guided by mind.

The long series of handwork thus completed has been in effect a succession of problems graded in difficulty to suit the maturity of the pupil. The solution of these problems has required conscious, inde-

pendent and definite action. There has been carefully planned instruction to guide the young pupil workman, but it has been increasingly a teaching of principles, leaving him to apply them to the work in hand. Earnest, honest effort has been found the surest road to success, while failure has followed inattention and carelessness. The results have stood out for all to see and judge. Thus has been taught a moral lesson of untold value, the effects of which, impressed again and again upon the mind, must abide there. The instruction is individual; the ability of the average does not control the progress of the apt or the dependent, so all receive the kind and amount of help needed. The pupil's answer to the problem is in material form for the teacher to see, so little is left to the judgment of the latter—not always infallible in estimating ability and acquirement. Gradually the law of action unfolds to the child's mind; he sees thoughtful adherence to right method overcome obstacles apparently insurmountable; he finds himself thus successful again and again in the face of difficulties and upon new fields. He becomes conscious and confident of his own power—a self-reliant man, but one who knows, too, his limitations. No matter in what line of work his life efforts are applied, he is much more certain of success than were he to enter upon that work untrained, and at an age and under conditions where failure would mean so much.

In connection with the higher grades of manual training there are other benefits which must not be overlooked. An attempt has been made to indicate the purely developmental aspects of the tool work, which is ever the prime reason for it, but as the student grows to maturity, as he approaches the period when he must decide upon his future, he comes into a different relation to the work, because of the possibility that it is destined to be in many cases and in various ways the answer to his questions. It is the key to the great world of industrial activity; the principles he has learned are applied in every process of manufacture and in almost every industrial art the world over. Shall he prepare himself for one of the old-time "professions," for some branch of science, for an engineering career, for commercial life, or shall he seek to learn a trade? What is to guide him? The manual training student of to-day, even though he progress no further than through the grammar grades, has much to guide him which his older brother had not, while if he has received a high school training he is in a much better position to decide. The curriculum of the regular or literary high school is well calculated to attract and hold pupils of predominant literary tastes. In its variety of literary and scientific studies such students find a congenial atmosphere. But there are other tastes, other capabilities, deserving of as careful attention as are those named. It should be the function of the public school to discover a boy, if possible every boy, to himself; to point out to him his strongest natural tastes and abilities; to foster and cultivate them so far as to awaken and stimulate his ambition in them, and show him the way to

develop them to the highest purpose attainable. Only in this way can a boy be trained for the best success possible to him in life.

The schools must recognize the fact, therefore, that many, perhaps a majority, of the pupils have mechanical tastes more strongly implanted than any others, and further, that in any event many are of necessity to find a living in some industrial vocation. To ignore these facts is to make unfair distinctions which will force many pupils out of school; a crime, by the way, not wholly unknown. Manual training, by holding boys of this latter class longer in school, will not only aid them in the direct way of preparing them for their future work, but will enable them to profit from the longer study of the other branches of instruction. In offering this combined course of literary and hand work the manual training school finds its mission. It presents opportunity where before there was none; hence it is a broadening rather than a narrowing element in education. A one-sided training, whether of literary or mechanical tendency, narrows the choice and the capability of its recipients, but when properly combined the young graduate is ready to make intelligent selection, and is better qualified for success in either line of work. If he is forced by circumstances to accept the first opportunity presented, regardless of his own tastes, he has twice as good a chance for success.

The terms "mechanic" or "mechanical" as here used are not to be restricted in meaning. The professional engineer, civil, electrical or mechanical, is a man of the broadest mechanical training. The work of the dentist or the surgeon is mechanical, and requires the most expert and delicate use of tools. Almost every branch of natural science owes much to the manual skill of its devotees. The conceptions of the sculptor and the artist become realities for us only by means of the trained hand and muscle. All these are the higher rounds of the ladder, but they must be reached from below. And the aim of the manual training school is high; a study of the statistics of the longer established schools shows that they are quite as effective in awakening ambition as are the older schools of the same grade; under similar conditions a larger percentage of their graduates go on to higher study. Or if they seek immediate employment they soon rise from the ranks by reason of their better general education, becoming, in many instances, the directors of the labor of others. In a few words, manual training in a consistent school system stands for more equal opportunity for all pupils to develop along lines of least resistance, to receive such cultivation of capacities implanted by Nature as shall arouse and stimulate ambition for the highest attainment possible. It means less failure caused by the effort to develop that for which no foundation exists in natural endowment.

To accomplish the results thus considered possible to manual training several factors are necessary. Foremost in importance is the teacher; nothing else can make up for deficiencies there. The other essential things are appliances and rooms. As the work advances in grade these

latter increase in importance, until for high school work a specially designed building is needed to furnish proper setting for expensive equipments and to give the highest efficiency to intelligently planned work and careful instruction.

It has been said that the results of the hand work to the child are more important, educationally speaking, in proportion as it is given early in the school life. It is also more important, because the earlier it is given the larger the number of children who receive its benefits. These two facts are kept ever in mind, and it was their recognition which determined the policy that has given to this city what the United States Commissioner of Labor states is "the most complete of the systems of manual training in the public schools." This completeness is not all; it is nowhere else so universally introduced; the advantages are for every pupil.

Effort and money have not been spent in providing maximum facilities for some, but some facilities for all, and at the earliest age practicable. This management, however, has, in the course of time, brought about a condition which can only be satisfied by doing what at first would have been premature, the provision, as just stated, of maximum facilities for some. These are such pupils as, having developed, during their course through the grades, good mechanical ability, are ambitious to take a high school course, and, in many cases, to follow it by advanced study in technical lines. For such as these the technical course was organized at the Central high school four years ago. There are more than one hundred now enrolled in it, each year having witnessed a decided increase. The character of the boys who choose this course warrants the belief that, so far as the means at hand permit, the claims made in this report in respect to the attractiveness and value of high-school manual training are being fulfilled here, as they are in other cities.

Upon the promise of our own experience, therefore, as well as upon the results of outside experiment, we may base the argument in behalf of improved facilities. There is a demand for the best that can be obtained, not only to properly furnish appliances and instruction in existing lines, but to so broaden the entire course as to make it complete where it is now lacking. In my report for 1895-96 I indicated in a general way what the requirements for a broad manual training high school ought, in my opinion, to be. I can only affirm with added emphasis what I then stated.

During the past school year 2,055 boys of the seventh and eighth grades have been instructed in bench work in the 18 shops which are distributed over the city and suburbs. In its narrower sphere the high school work was equally flourishing. In addition to the technical students above noted, 135 elected the work for two periods a week, or as an extra study. The total number greatly overtaxed the limited facilities. It is thought that another year it will be advisable to limit the number of this latter group, unfortunate as such a step would appear.

Yet the interests of those students who are making the shop instruction a feature of their work suffers enough already from lack of adequate accommodations without adding the further drawback which a continuance of the present congestion entails.

I give below some statistics of the year's work :

Number of seventh-grade boys enrolled in city shops at the opening of school	821
Number of eighth-grade boys enrolled in city shops at the opening of school	739
Number of boys enrolled in high-school shops at the opening of school	235
Number of boys enrolled in county shops at the opening of school	257
Total enrollment at the opening of school	2,055
Total enrollment at the close of school	1,854
Average enrollment	1,955
Cost of maintaining four high-school shops	\$1,038.05
Cost per pupil, high school (average enrollment 223)	\$4.65
Cost of maintaining ten city grammar-school shops	\$2,197.67
Cost per pupil, grammar school (average enrollment 1,473)	\$1.49
Cost of maintaining eight county shops	\$540.43
Cost per pupil, county (average enrollment 252)	\$2.14
Cost of equipment for one new county shop	\$384.47
Total cost of maintaining all shops	\$3,776.15
Cost per pupil (average enrollment 1,955)	\$1.93
High-school shops, 624 and 626 O street nw. (principal, Mr. A. I. Gardner; assistants, Messrs. R. B. Hayes and F. E. Skinner):	
Machine shop—	
Boys from the second, third, and fourth year classes, Central	44
Cost of repairs, supplies, and new tools	\$597.10
Forging shop—	
Boys from the first and second year classes	60
Cost of repairs, supplies, and new tools	\$240.24
Wood-turning and pattern shop—	
Boys from the first-year class	131
Cost of repairs, supplies, and new tools	\$135.13
Drafting room (for all pupils receiving instruction in above shops)—	
Cost of supplies	\$65.58
Grammar-school shops, bench work:	
624 and 626 O street nw. (instructors, Messrs. P. L. O'Brien and H. B. White)—	
Boys from the Abbot, Henry, Seaton, Morse, Twining, and Webster schools	300
Cost of repairs, supplies, and new tools	\$550.18
Blair School, I street, between Sixth and Seventh streets, ne. (instructor, Mr. R. T. Pumphrey)—	
Boys from the Blair, Blair Annex, Taylor, Pierce, Madison, and Hamilton schools	151
Cost of repairs, supplies, and new tools	\$212.93
Gales School, First and G streets nw. (instructor, Mr. J. A. Montgomery)—	
Boys from the Arthur, Blake, and Gales schools	124
Cost of repairs, supplies, and new tools	\$182.59
Peabody Annex, Sixth street, between B and C streets ne. (instructor, Mr. J. K. Potter)—	
Boys from the Carberry, Maury, Peabody, and Towers schools	160
Cost of supplies and new tools	\$183.73

Grammar-school shops, bench work—Continued.

Seventh and G streets se. (instructor, Mr. J. A. Degges)—	
Boys from the Lenox, Brent, Wallach, Towers, and Tyler schools.	170
Cost of repairs, supplies, and new tools	\$140.32
Jefferson School, Sixth and D streets sw. (instructor, Mr. E. J. Dakin)—	
Boys from the Jefferson, Smallwood, Bradley, and Greenleaf schools	162
Cost of supplies, repairs, and new tools	\$180.25
Thomson School, Twelfth street, between K and L streets nw. (instructor, Mr. W. R. Sheid)—	
Boys from the Dennison, Harrison, Berret, Franklin, and Phelps schools	168
Cost of repairs, supplies, and new tools	\$302.78
Force School, Massachusetts avenue, between Seventeenth and Eighteenth streets nw. (instructor, Mr. F. Schweinhaut)—	
Boys from the Adams, Grant, Dennison, Berret, Weightman, and Force schools	168
Cost of repairs, supplies, and new tools	\$249.01
1359 Thirty-second street nw. (instructor, Mr. T. W. Fuller)—	
Boys from the Addison, Jackson, Fillmore, Corcoran, Weightman, and Grant schools	174
Cost of repairs, supplies, and new tools	\$195.88
Van Buren Annex, Anacosta (instructor, Mr. E. F. Pywell)—	
Boys from the Van Buren and Van Buren Annex schools	36
Cost of repairs, supplies, and new tools	\$34.95
Hillsdale School, Hillsdale (instructor, Mr. E. F. Pywell)—	
Boys from the Garfield, Birney, and Hillsdale schools	46
Cost of repairs, supplies, and new tools	\$65.80
Anacostia Road, Benning (instructor, Mr. E. F. Pywell)—	
Boys from the Benning School	12
Cost of repairs, supplies, and new tools	\$11.39
Benning Road School, Benning (instructor, Mr. E. F. Pywell)—	
Boys from the Benning Road School	8
Cost of repairs, supplies, and new tools	\$38.07
Mott School, Sixth and Trumbull streets nw. (instructor, Mr. F. L. Harries)—	
Boys from the Mott and Wilson schools	24
Cost of repairs, supplies, and new tools	\$96.63
Johnson School Annex, Mount Pleasant (instructor, Mr. F. L. Harries)—	
Boys from the Johnson and Monroe schools	64
Cost of repairs, supplies, and new tools	\$130.65
Brightwood School, Brightwood (instructors, Messrs. F. L. Harries and E. F. Pywell):	
Boys from the Brightwood School	24
Cost of repairs, supplies, and new tools	\$51.20
Brookland School, Brookland (new shop), (instructor, Mr. F. L. Harries)—	
Boys from the Brookland and Woodburn schools	31
Cost of equipment	\$384.47
Cost of supplies	111.74

Very respectfully,

J. A. CHAMBERLAIN.

Superintendent W. B. POWELL.

H. Doc. 7, pt. 1—44

REPORT OF DIRECTOR OF COOKING.

WASHINGTON, D. C., *June 30, 1897.*

DEAR SIR: Ten years have passed since cooking was placed with the subjects in the course of public instruction, and before entering upon another decade it may be well to pause and consider what we have done, what we are doing, and what we may do in this subject to educate those committed to our care.

Two members of the normal class of 1887 were selected to begin the work, for which two kitchens were furnished to accommodate twelve pupils, one at 626 O street, northwest, for pupils of the high school who desired to take the course; the other at the Peabody annex for those pupils from the seventh and eighth grades of the third division who wished to receive the instruction. Arrangements were made to send three classes a day to each kitchen, each class to receive one lesson of one and one-half hours each week. For the second year's work five new kitchens, so located as to receive the pupils of the seventh and eighth grades in each division, were furnished and each placed under the care of a separate teacher.

Admission to the classes was still optional, but so great was the success of the first year that the interest and enthusiasm shown by the pupils exceeded all expectation, so that the seven kitchens were scarcely enough to accommodate all who wished to take the lessons. For the next year three additional kitchens were opened, and the work made compulsory for all girls of the seventh and eighth grades; then, each succeeding year, as the growth of the population required, new kitchens were furnished, until to-day there are eighteen kitchens under the care of twelve teachers, and all pupils of the seventh and eighth grades, excepting a few in the remotest schools, receive one lesson of one and one-half hours each week in the science and art of cooking.

The course of instruction planned for the first year's work was necessarily such a one as would attract the attention of the pupils and keep their interest from decreasing, yet its aim was to teach the proper method of doing the work, but without studying the chemical or physical changes or the relation of the food to the body. As the work was not given by the methods taught in the normal school, it was deemed best to formulate a course which could be given by approved educational methods. Such a course was prepared and printed during the summer of 1888 and put into the hands of the teachers at the beginning of the second year, since which time, although the plan of work has remained the same, the scope has been extended and broadened until, as I believe, we have the best possible course that can be given with the money at our command.

There are three different plans of presenting the work used by the teachers of cooking in this country. The first by demonstration, when the teacher does the work before the pupils while they observe; the second, the individual plan, where each pupil has a separate stove,

table, and set of utensils, and does all the work herself, following the written or verbal directions which are given; the third, the group plan, where several pupils work together upon some dish, taking turns in the stirring, mixing, and cooking. The equipment of the kitchen for demonstration work costs from \$175 to \$225; for group and individual work, from \$400 to \$600.

With the individual plan the quantity of materials given to each pupil is so small that the article when prepared is less than enough to serve one person, and so much smaller than the amount generally prepared for use that the pupils have difficulty in forming the correct idea of the manner of mixing, time and heat required for cooking, or of its final appearance, except in a few instances. To the group of girls a larger quantity is given, hence the work more nearly resembles that which is done at home, and the article assumes a more practical and business-like appearance and can be treated more as a work of art. Under both systems the pupils do all the work with only occasional assistance or suggestion from the teacher. If to each pupil sufficient material were given to make an article large enough to serve several people, in the mixing and cooking of which she could obtain the correct idea of the work, heat and time required, and which would produce an article having practical value, the individual plan would be the ideal one to use. This can not be done if all the girls old enough to take the lessons are to be taught, as the expense of each kitchen would be too great.

As the pupils learn more rapidly and thoroughly by doing all the work themselves, and wishing to do the greatest good to the greatest number, we have, after careful consideration of the advantages and limitations of each plan and of the amount of money at our disposal, modified the group plan, having, instead of many groups at work in the same room, one group of three or four girls perform all the work of mixing, kneading, and cooking according to the verbal directions of the teacher, while the other pupils in the class observe carefully and from time to time describe the work being done by those who are cooking. A group of four other girls attend to the house cleaning after the cooking is finished; then at the next lesson others are selected to do the work. As the classes average twelve pupils each, each pupil has opportunity at least once each month to actually handle the materials and do the necessary mixing, cooking, and cleaning. By this arrangement the cost of provisions for a course of thirty lessons is \$100 for a kitchen where fifteen classes of twelve pupils each are taught, and as the one range and set of kitchen utensils, with the necessary school furniture, are all that are required, the cost of fitting the kitchen is from \$200 to \$250. As the furniture can be used for many years, the cost of keeping each kitchen is \$100 for provisions and \$10 for repairs.

In many school kitchens the recipes are printed on cardboard, from which the pupils copy them into notebooks; in others they are dictated to the pupils. Instead of giving the recipes to the pupils in

our schools by either of these ways we have the cooks follow the verbal instruction of the teacher, while the others observe and from time to time describe that which is being done by the cooks, care being taken at all times to secure correct expression, after which all write their own recipes as the result of their own observation.

This has been found an excellent means of securing close and accurate observation by each member of the class and an accurate statement of facts in idiomatic English based upon close individual observation.

The individual plan is not so necessary to secure good work in our schools as it may be in some others, because the greater part of all school work here is done by the individual from or with his own materials, and I doubt if the increased expenditure necessary to furnish the kitchens for individual work would result in an increased benefit to the pupils.

This plan of giving the instruction requires, on the teacher's part, greater enthusiasm and power to create enthusiasm than either of the other plans, hence great care must be exercised in the selection of the teachers, for so much depends upon the manner in which the subject is presented. A teacher of cooking must possess in addition to a practical knowledge of how to mix and cook the food material a real love for the sciences, a thorough knowledge of the English language and how to teach it, and an intimate acquaintance with the science of physics, chemistry, botany, and physiology, as our homes are the laboratories where many of the principles of these sciences are daily being demonstrated and the problems solved, and it is her business to prepare the future home makers.

As each article of food is used in a lesson the pupils study its source, manner of growth, formation or manufacture, and preparation for commerce, as well as the care which should be exercised with regard to cost, quantity, and nutritive value when selecting, purchasing, and keeping it.

The name, shape, position, and appearance of the different parts of meat are taught by means of charts, drawings, and the cuts of meat, and the best method of securing the greatest amount of nutriment from it is discussed.

Simple laboratory experiments are made with each food material to determine its composition, thus enabling the pupils to classify it according to its composition and nutritive value.

Experiments are also made to show the effect of heat, moisture, and other conditions upon the different food principals, from the results of which pupils formulate their own rules for cooking and are taught the reason for the general principles underlying the cooking of the different classes of food.

Experiments are used to introduce each process of cooking, for the greater scientific knowledge gained by careful experiment and observation the greater will be the girl's love for truth and those things which are genuine.

If the manner of growth and preparation for commerce of each food material could be studied in connection with the work in geography and language in the grades immediately preceding the seventh, more time and attention could be devoted to it than can possibly be given to it in the hour and a half which is allowed for the lesson in cooking, and the teacher of cooking would thereby be enabled to devote more time to the actual cooking of the article, the different combinations which might be made with it, and its dietetic value.

The physiology and, to a limited extent, the chemistry of digestion and nutrition are also studied in connection with each article of food.

We need several more kitchens, that the work may be given to the seventh and eighth grade pupils in all parts of the county and to relieve the crowded condition of classes in some of the city schools, but this will not require the appointment of a new teacher for each new kitchen.

If each class could be divided into three groups, each having a separate work table and set of utensils and use the same quantity of materials as are now used, I believe the interest of the pupils and the practical value of the work as a factor in the elevation of the homes would be increased, for each girl would then have more frequent opportunity to become accustomed to handling the food materials, consequently more dexterous and independent in her work, hence of greater value in the home because less liable to make mistakes and waste the materials. That this work is repeated in the homes as it is done in the schools in preference to some other way is known with certainty from the report of the girls at each lesson, from their report after leaving school and often after they are married, as well as from their parents and friends.

This change of plan will necessitate a change in the equipment of the kitchen, which will cost \$75 or \$100 more than the present outfit and an additional annual expenditure of \$100 for materials for the lessons.

After increasing and perfecting this work in the graded schools it should be extended to the high school, from which it was taken several years ago because of the difficulty experienced in arranging the program, and as then given the two years were enough. The new course for the high school should be much broader and more scientific than that used in the graded schools, and be called "domestic science." Its aim should be a closer and more thorough application of the different sciences to the different departments of the household, that the happiness and well-being of the whole family may be increased. This work should form a part of the industrial or technical course which was planned last year, and be open to both girls and boys.

I can not close this report without speaking of the great good being done by the night schools for cooking. This work was started eight years ago in the O-street kitchen, since which time this one has been in operation each year, and for the past two years two others have been

open. From the first the classes have been full and often crowded. Those who attend are for the most part the real home makers; others are wage-earners in the different occupations, and a few are from private schools where this instruction is not given. Many of the pupils have had little or no opportunity to learn either the art or science of cooking, while others have been obliged to learn the art by that most expensive teacher—experience. All realize the necessity for the instruction and come with great interest and enthusiasm for honest work. To these lessons are brought the practical questions and difficulties which are to-day occupying the minds of all thoughtful, earnest house-keepers and home makers.

Force (Miss E. W. Cross, teacher; received pupils from Force, Adams, Berret, and Dennison; 7 eighth-grade classes, 7 seventh-grade classes):		
Whole number of pupils	218	
Amount of grocery bill		\$86.33
Thomson (Mrs. A. C. Pollok, teacher; received pupils from Franklin, Phelps, Harrison, Dennison, and Webster; 5 eighth-grade classes, 8 seventh-grade classes):		
Whole number of pupils	232	
Amount of grocery bill		\$86.68
609 O street nw. (Miss Marian White, teacher; received pupils from Henry, Polk, Morse, and Twining; 4 eighth-grade classes, 9 seventh-grade classes):		
Whole number of pupils	230	
Amount of grocery bill		\$62.26
Seaton (Miss Annie McDaniel, teacher; received pupils from Seaton, Twining, Gales, Blake, and Arthur; 9 eighth-grade classes, 6 seventh-grade classes):		
Whole number of pupils	277	
Amount of grocery bill		\$75.10
Taylor (Miss Margaret Keogh, teacher; received pupils from Taylor, Blair, Blair Annex, Madison, Pierce, and Hamilton; 7 eighth-grade classes, 8 seventh-grade classes):		
Whole number of pupils	218	
Amount of grocery bill		\$75.82
Peabody Annex (Miss M. J. Merillat, teacher; received pupils from Peabody, Carberry, Maury, and Towers; 7 eighth-grade classes, 8 seventh-grade classes):		
Whole number of pupils	205	
Amount of grocery bill		\$80.39
Wallach (Miss M. A. Douglas, teacher; received pupils from Wallach, Towers, Lenox, Brent, and Tyler; 7 eighth-grade classes, 8 seventh-grade classes):		
Whole number of pupils	274	
Amount of grocery bill		\$71.30
Jefferson (Miss M. A. Davis, teacher; received pupils from Jefferson, Bradley, Greenleaf, and Smallwood; 7 eighth-grade classes, 7 seventh-grade classes):		
Whole number of pupils	203	
Amount of grocery bill		\$75.65
3104 P street nw. (Miss Fannie AtLee, teacher; received pupils from Addison, Corcoran, Jackson, and Fillmore, and one class at Tenley; 6 eighth-grade classes, 9 seventh-grade classes):		
Whole number of pupils	200	
Amount of grocery bill		\$84.16

Grant (Miss Florence Jenkins, teacher; received pupils from Grant and Weightman; at 2213 Seventh street nw. from Mott, and at Brightwood from Brightwood; 6 eighth-grade classes, 7 seventh-grade classes):

Whole number of pupils	171
Amount of grocery bill	\$67.32

County (Mrs. M. A. Burns, teacher; received pupils at Benning Road, Anacostia Road, Van Buren Annex, Hillsdale, and Johnson Annex; 6 eighth-grade classes, 7 seventh-grade classes):

Whole number of pupils	180
Amount of grocery bill	\$72.58

In closing the report I wish to thank you for the great interest you have always taken in this work and for your many helpful suggestions and criticisms, which have enabled us to bring our work up to its present high standard.

Very respectfully,

EMMA S. JACOBS.

Mr. W. B. POWELL,
Superintendent of Schools.

REPORT OF DIRECTOR OF SEWING.

WASHINGTON, D. C., *June 30, 1897.*

DEAR SIR: I beg to submit the following report of the work of the sewing schools of the first eight divisions for the year 1896-97.

The class work was begun September 24, and was ended June 17.

The number of pupils who were taught plain sewing was 5,750, arranged in 218 classes, giving an average of 26 per class. Lesson, one hour per week.

Sixty-two classes in cutting and fitting were instructed, numbering 1,092 pupils, or an average of 17½ per class. Lesson, one and one-half hours per week.

Four or five classes in plain sewing are taught daily by each sewing teacher, the number of classes being regulated by the number of grades in a building.

Not more than two buildings can be visited in any one day by a teacher, the change, when one is made, being at the noon recess.

There are at present 15 teachers, including the director, engaged in teaching sewing, no addition to the corps having been made during the year. The assignment of teachers, of both plain sewing and fitting, remained unchanged.

Teachers' meetings were held at frequent intervals, monthly or more often if necessary, for consultation and exchange of views. Uniform methods of instruction were thus insured in all sections of the city and county, so that a pupil changing from one school to another could continue her work without interruption.

The course in plain sewing is begun in the third grade and continues through the fourth and fifth grades.

The first year is devoted to teaching the various stitches, such as basting, running, stitching, overcasting, overhanding, and hemming. These form the foundation for all subsequent sewing.

Great care is observed in this grade to train the children in the proper use of the thimble, needle, scissors, etc.: good results can be accomplished, with pleasure and interest to the pupils, by what are termed "class drills."

In the fourth and fifth grades an application is made of the stitches learned the previous year in the formation of the different kinds of seams, patches, etc. In these grades, also, the drafting of simple undergarments is taken up.

More time was devoted to class instruction during the past year than heretofore.

The term "class instruction" is here used in contradistinction to individual explanations, and results show that short talks to the class as a whole, accompanied by blackboard illustrations, secure the interest and attention of the pupils and economize time, the bright pupils very readily grasping the teacher's idea, thus giving more time to devote to the slower ones.

This result was particularly noticeable in lessons on darning and buttonholes, whole classes being able to make very creditable samples without individual help.

As equally important as the training of the eyes and fingers in this work is the training of the mind, and care must be used by the teacher in having her pupils understand not only how to make the various stitches, but to be able to tell in correct English how and when they should be used respectively; for this purpose a few minutes at the beginning of each lesson are devoted to an oral review of the previous lesson before taking up a new subject.

In the sixth school year the children take up a course in cutting and fitting, rooms being provided in different localities of the city for the purpose.

Five of these schools are now in operation, covering all sections of the city with the exception of the first division, and the Grant, Arthur, and Maury schools.

It is earnestly hoped that the beginning of a new school year will find ample accommodations for these schools, as there is a growing demand from parents and pupils in these localities for such instruction.

The interest displayed by pupils in this department during the past year was very gratifying. The De Lamorton system of dress cutting has been in use in the schools now for two years, and has been found to be both simple and accurate.

The pupils being trained in the preceding grades to prepare and finish work neatly, are now ready to gain a practical knowledge in drafting, cutting, basting, and finishing plain dresses. Owing to lack of time and the age of the pupils, this work must be simplified as much as possible.

The drafting of a waist from a model measure is first taught, one piece being taken up at a time. The pupil thus becomes thoroughly familiar with the name and shape of the different parts of the garment, and is required to explain in writing the several steps in the work, thus training the memory as well as the hand and eye.

After instruction in measuring, the pupils measure each other, and from these measurements, which are carefully tested by the teacher, draftings are made and used in the making of simple waists.

From the "model" pattern the lining and goods are cut, carefully basted, and stitched by machine, after which the waist is neatly finished, and can be preserved by the child as a model for future use.

The teaching of sewing in the public schools in most of the large cities of the United States has long since passed the experimental stage, so that this line of instruction is now recognized as thoroughly practical and successful.

The record of this branch of work in the Washington schools has been one of gradual development from a very crude beginning, and while perfection has not yet been reached, the present methods and the work performed are so manifestly superior to those of the earlier years, that we may fairly claim to have made progress.

In 1888, for example, the first step in the sewing lesson was to start the pupil at work on an apron, the formation of the stitches being taught incidentally.

It was later discovered that this plan of at once starting the pupil into the making of garments was unsatisfactory.

The present plan embraces a systematic preliminary training in the formation of stitches, etc., before putting the child at work in the actual making of clothing.

The experience of nine years in this line of school work which we have had in Washington has developed many lines of instruction collateral to the sewing itself, but logically allied therewith.

For example, it has been found to be a matter not only of interest but of value in knowledge to talk about the origin of the materials used in sewing—the cloth, the thread, the needle, thimble, etc. For this purpose various exhibits are used, showing, for example, the evolution of the cotton from the raw state into the completed thread or cloth, or the various steps in the process of manufacturing needles, thimbles, buttons, and the like.

These little incidental dissertations serve to relieve the monotony of the work, and at the same time impart useful knowledge in a manner calculated to make lasting impressions.

While the time and length of these talks are left largely to the discretion of the teacher, it has been found wise to utilize dark and cloudy days for this work, when the eyes of the children might be injured by too close application to threads and stitches.

Perhaps no other character of school work is more fruitful of moral

impressions than the sewing lessons; and great care in this regard is exercised by the teachers.

In the first place, neatness and cleanliness are required in the handling of the garments or material being worked upon, and care and thoroughness in the work rigidly exacted. The effect of this training is quite noticeable in the improved personal attire and appearance of the children. A word of reproof kindly and privately given by the sewing teacher always has a salutary effect on rips and rents.

Again, as advanced pupils are encouraged to apply their knowledge to practical purposes in the home, we frequently learn from parents and other sources of information that helpfulness and self-reliance are the direct result of school instruction in sewing.

The aid of skilled fingers in mending and darning in most families is a matter of no small consequence, and even the younger girls are soon qualified for this work, while the older ones, after completing the cutting and fitting or dressmaking course, are able to make garments for themselves or others of the family.

Also, in connection with what we term "cooperative work," charity and benevolence are inculcated, the children contributing small sums of money for the purchase of material, which is made up into garments (a number of pupils working on the same garment), these when completed being donated to charitable institutions or worthy needy families.

It is gratifying to be able to report that our work has been highly approved by the parents and others interested in school work.

The recent exhibition of manual-training work, held at the close of the school term, although almost an impromptu affair, was visited by hundreds of visitors, who showed great interest in the work of sewing.

The interest manifested by all, as shown by questions to the teachers in charge and by hearty expressions of commendation of the work exhibited, was greatly appreciated by the teachers of sewing, as well as the instructors in other branches of manual-training work. Public approval of our progress in the sewing classes has been generous and unstinted, and the encouragement and cooperation of the parents have in no small measure contributed to the work of the year.

SEWING AS A BRANCH OF SCHOOL WORK.

Begun as an experiment only a few years ago in the public schools of the East, the teaching of sewing is now recognized as an established part of the curriculum in the schools of nearly all the larger Eastern cities and is gradually being adopted in other parts of the country.

In 1893 an organization known as the "New York Association of Sewing Schools" was formed "to act as a center of information for sewing schools and to formulate and carry out such plans and arrange for such meetings and classes as might be deemed advisable for the further development of the work."

In this association nearly one hundred schools are represented, mostly church or charity schools, but including representation from the

public schools of Baltimore, Philadelphia, Washington, D. C.; New Haven, Conn.; Utica and Buffalo, N. Y., and other smaller cities. In March, 1897, an exhibition under the auspices of this association was held in New York City. The writer was present as a member of the association, and in charge of the Washington exhibit.

In addition to exhibits from various parts of the United States, there were exhibits from thirty-one schools of London, from the public schools of Geneva and Zurich, Switzerland; Stockholm, Sweden; Brussels and Ghent, Belgium; Honolulu, and Japan.

As showing the development of the methods of instruction and in the work accomplished thereby, the exhibition was of great interest and value to those attending it, and especially to those engaged in teaching in this line, and as an impetus to the prosperity of the association and the furthering of its purposes the exhibition was equally successful.

The exhibit of the Washington schools at this exhibition was creditable, and received many compliments from those in attendance.

EXTENSION OF THE WORK.

The sewing classes at present are confined to pupils of grades 3, 4, 5, and 6, and as the girls in these grades are only from about 8 to 13 years of age, the matter of continuing sewing lessons through grades 7 and 8, and even beyond that, has been suggested heretofore and is entitled to consideration.

The work in the sixth grade schools is confined to "cutting and fitting" by measurements, and while the work done thus far has been satisfactory to the teachers and greatly appreciated by the parents, it is believed that a single term's instruction in this special course, which is in fact a practical application of the requirements of the previous years, is not sufficient for the best results.

It has been suggested on numerous occasions to the sewing teachers by mothers of the girls that sewing lessons are discontinued just at the time when the pupils are beginning to appreciate their own work and are most interested and before they have fully mastered the intricacies of garment making by measurements.

As an indication of the feeling on this subject, it may be said that during the recent exhibition here of the manual training schools several lady visitors expressed their regret that their daughters in the high school were missing the instruction in cutting and fitting, and more than one mother expressed her intention of applying for special permission for her daughter, a high school pupil, to attend these classes.

Again, the teachers of cutting and fitting have been applied to frequently by pupils above the sixth grade for private lessons, and in a number of instances girls who have been obliged through poverty or family misfortune to leave school have sought and obtained permission to continue the lessons in this special line after passing the sixth grade.

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These facts are submitted for your consideration and that of the Board of Trustees.

Under present arrangements lessons in plain sewing are given in the rooms devoted to other school purposes. This is objectionable for several reasons, as follows: First. Nearly all of the schools are mixed schools (boys and girls), and during the sewing lessons the boys are limited to work which can be done quietly, while the class work of the sewing teacher is necessarily more or less interfered with. Second. The sewing lessons require the use of the blackboard for sketches and illustrations, and it frequently happens that the exigencies of the regular school work require that examples, etc., be kept on the blackboard for one or more days.

Aside from this it would be a great advantage to the sewing teacher if her blackboard sketches and drawings could remain from one class to another instead of being removed at the close of the lesson to make room for the regular exercises.

These inconveniences could be avoided if one room in each building could be set apart for sewing lessons, and the further obvious advantage would result of permitting such rooms to be furnished appropriately and supplied with charts and other paraphernalia the use of which would now be inconvenient.

Cutting and fitting schools.

607 O street nw. (Miss Isabelle Solomons, teacher; pupils received from Henry, Polk, Twining, Webster, and Seaton):	
Number of pupils taught.....	263
Number of classes	14
Seventh and G streets se. (Miss E. R. Thornton, teacher; pupils received from Wallach, Towers, Brent, Lenox, Tyler, and Buchanan):	
Number of pupils taught	216
Number of classes	12
494 Maryland avenue sw. (Mrs. A. L. Norris, teacher; pupils received from Jefferson, Amidon, Smallwood, Greenleaf, and Bradley):	
Number of pupils taught.....	186
Number of classes	12
Blair School (Miss S. Amelia Dalton, teacher; pupils received from Blair, Taylor, Madison, Pierce, Gales, Blake, Carbery, and Peabody):	
Number of pupils taught	286
Number of classes	15
3104 P street nw. (Mrs. S. M. Davidson, teacher; pupils received from Addison, Coreoran, Fillmore, Jackson, and Weightman):	
Number of pupils taught.....	141
Number of classes	9
Total number of pupils in cutting and fitting schools	1,092
Total number of classes.....	62
Average number of pupils per class	17.50

Plain sewing.

Miss M. C. Henry, in the Force, Berret, Phelps, Dennison, Harrison, and Seaton:

Number of pupils taught.....	645
Number of classes.....	24

Mrs. C. L. Stanton, in the Addison, Corcoran, Birch, Bluut, Jackson, Fillmore, and Tenley:	
Number of pupils taught.....	492
Number of classes.....	21
Miss Kate Graham, in the Brent, Lenox, McCormick, Greenleaf, Smallwood, Amidon, Potomac, and Bradley:	
Number of pupils taught.....	644
Number of classes.....	23
Miss A. M. Wells, in the Arthur, Maury, Wilson, Johnson, Monroe, and Woodburn:	
Number of pupils taught.....	540
Number of classes.....	20
Mrs. E. M. Colhoun, in the Adams, Webster, Grant Road, Buchanan, Tyler, and Crauch:	
Number of pupils taught.....	530
Number of classes.....	23
Miss Hannah Draney, in the Benning (white and colored), Twining, Morse, Polk, Jefferson, Van Buren and annex, and Brookland:	
Number of pupils taught.....	644
Number of classes.....	26
Miss Charlotte White, in the Blair and annex, Taylor and annex, Madison, Pierce and annex, Carbery, and Henry:	
Number of pupils taught.....	597
Number of classes.....	25
Miss Ernestine Thornton, at the Towers:	
Number of pupils taught.....	97
Number of classes.....	3
Mrs. Frances P. Polkinhorn, in the Blake, Gales, Hamilton, Franklin, Mott, Brightwood, and Military Road:	
Number of pupils taught.....	610
Number of classes.....	22
Miss Genevieve Cassin, in the Grant, Weightman, Wallach, Hillsdale, Birney, and Congress Heights:	
Number of pupils taught.....	627
Number of classes.....	20
Mrs. S. M. Davidson, in the Carbery and Peabody:	
Number of pupils taught.....	215
Number of classes.....	8
Mrs. Annie L. Norris, in the Jefferson:	
Number of pupils taught.....	100
Number of classes.....	3
Total number of pupils receiving instruction in plain sewing.....	5,741
Total number of classes.....	218
Average number of pupils per class.....	26.33

In conclusion, I desire to commend the zeal and faithfulness of my associates and to acknowledge the aid and cooperation of yourself and the several supervising principals in the year's work.

Respectfully submitted.

MARGARET W. CATE.

Mr. W. B. POWELL,
Superintendent of Schools.

ANNUAL REPORT WASHINGTON HIGH SCHOOL, 1896-'97.

WASHINGTON, D. C., *June 30, 1897.*

CENTRAL SCHOOL.

Numbers and attendance.

Number of pupils readmitted from previous year.....	557
Number admitted at the beginning of the year.....	357
Number subsequently admitted.....	80
Number of withdrawals.....	232
Number at the close of the year.....	762
Whole number enrolled (girls, 525; boys, 441).....	966
Average number enrolled.....	851.7
Average number in daily attendance.....	803.9
Percentage of attendance.....	94.3

Year 1896-97.

Month.	Average enrollment.	Average attendance.	Percentage.
September.....	874.3	856.8	97.9
October.....	900.9	867.8	96.3
November.....	891	850.2	95.4
December.....	884.3	827.6	93.5
January.....	897.2	829.2	92.4
February.....	857.6	802.2	93.5
March.....	860	795.1	92.4
April.....	821.6	767.8	93.4
May.....	781.6	736.7	93.8
June.....	746.3	706.2	94.6

Table showing growth of school.

Year.	Number of teachers.	Average enrollment.	Year.	Number of teachers.	Average enrollment.
1882-83.....	11	367	1890-91 <i>a</i>	36	1,001
1883-84.....	13	486	1891-92.....	37	937
1884-85.....	20	598	1892-93.....	39	778
1885-86.....	24	688	1893-94.....	42	835
1886-87.....	28	775	1894-95.....	43	894
1887-88.....	30	913	1895-96.....	42	814
1888-89.....	33	1,107	1896-97.....	44	851
1889-90.....	41	1,274			

a Decrease accounted for by establishment of branches at Georgetown and Capitol Hill.

Statistics of attendance, 1896-97.

Year opened with enrollment of	913
Maximum enrollment (September).....	913
Close of year (June)	762
Average enrollment	851.7
Approximate ratio, boys to girls	4 to 5
Average percentage of attendance.....	94.3

Miscellaneous statistics.

Year.	Number of graduates.	Year.	Number of graduates.
1882-83.....	26	1890-91.....	205
1883-84.....	51	1891-92.....	206
1884-85.....	139	1892-93.....	182
1885-86.....	179	1893-94.....	168
1886-87.....	190	1894-95.....	150
1887-88.....	207	1895-96.....	110
1888-89.....	222	1896-97.....	107
1889-90.....	289		

Number in the different courses in 1896-97.

Course.	Number.
Academic	521
Scientific	342
Technical	103
Total.....	966

EASTERN HIGH SCHOOL.

Numbers and attendance, 1896-97.

Number readmitted from previous years.....	254
Number admitted at beginning of year.....	184
Number subsequently admitted.....	27
Number of withdrawals.....	102
Number at the close of the year.....	362
Whole number enrolled (girls, 291; boys, 161).....	455
Average number enrolled.....	401
Average number in daily attendance.....	376
Percentage of attendance.....	93.6

Year 1896-97.

Month.	Average enrollment.	Average attendance.	Percentage.
September	422.3	413.9	97.7
October	438	418.7	95.5
November.....	422.1	401.7	95.1
December	414.5	391.7	94.5
January.....	401.3	369.6	92.1
February.....	393.7	363.6	92.3
March.....	391.8	263	92.6
April.....	385.6	359.2	93.1
May.....	383.5	355.3	92.6
June.....	367.1	340.4	97.2

MISCELLANEOUS STATISTICS.

Number in each course, by years.

Fourth year (scientific, 11; academic, 32).....	43
Third year (scientific, 27; academic, 59).....	86
Second year (scientific, 29; academic, 88).....	117
First year (scientific, 51; academic, 102).....	153
Total number in the scientific course.....	118
Total number in the academic course.....	281
Special students.....	54

Number of graduates.

1892-93. Boys, 31; girls, 37.....	68
1893-94. Fourth year (boys, 5; girls, 6).....	11
Third year (boys, 29; girls, 48).....	77
Total.....	88
1894-95. Fourth year (boys, 9; girls, 16).....	25
Third year (boys, 25; girls, 31).....	56
Total.....	81
1895-96. Fourth year (boys, 8; girls, 23).....	31
Third year (boys, 0; girls, 1).....	1
Total.....	32
1896-97. Fourth year (boys, 10; girls, 34).....	44

Table showing growth of school.

Year.	Number of teachers.	Average enroll- ment.	Year.	Number of teachers.	Average enroll- ment.
1890-91.....	7	158	1894-95.....	19	393.2
1891-92.....	11	239	1895-96.....	21	394.4
1892-93.....	15	329	1896-97.....	21	401
1893-94.....	17	366			

WESTERN HIGH SCHOOL.

Numbers and attendance.

Number of pupils admitted from previous year.....	133
Number of new admissions.....	131
Number of withdrawals.....	35
Number of pupils at the end of the year.....	214
Whole number enrolled (girls, 160; boys, 104).....	264
Average enrollment.....	231
Average number in daily attendance.....	215
Percentage of attendance.....	93.1

Numbers and attendance—Continued.

Month.	Average enrollment.	Average attendance.	Percent- age.
September	235.2	227.3	96.6
October	243.2	235.2	96.7
November.....	244.1	230.6	94.4
December	235.8	216.5	91.5
January.....	237.1	214.9	90.6
February	235.4	218.5	92.8
March.....	227.2	208	91.7
April	224.6	207.9	92.5
May.....	217.6	201.1	92.4
June	205	190.2	92.7

Table showing growth of school.

Year.	Teachers.	Enrollment.	Remarks.
1890-91.....	2	54	First-year pupils.
1891-92.....	4	104	First and second year pupils.
1892-93.....	7	156	First, second, and third year pupils.
1893-94.....	10	181.5	First, second, third, and fourth year pupils.
1894-95.....	11	199	Do.
1895-96.....	12	245	Do.
1896-97.....	14	231	Do.

Miscellaneous statistics.

Number of pupils in—	
First-year class	103
Second-year class	81
Third-year class	47
Fourth-year class	36
Number of graduates	23

BUSINESS HIGH SCHOOL.*Numbers and attendance.*

Maximum enrollment (October)	516
First year (boys, 174; girls, 202)	376
Second year (boys, 62; girls, 78)	140
Enrollment at the end of the year	360
Average enrollment	435
Average attendance	409
Average per cent of attendance	93.8
Average number of pupils per section (October)	32
Average age of first year pupils at entrance	16.4

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Year 1896-97.

Month.	Average enrollment.	Average attendance.	Percent- age.
September	482	469	97.3
October	492	473	96.3
November	477	451	94.4
December	457	429	93.9
January	438	403	92
February	433	402	92.9
March	421	393	93.2
April	403	377	93.5
May	389	365	93.7
June	362	338	93.3

BUILDINGS.

During the past year appropriations have made it possible to begin the erection of the long-needed Western High School. The plans for the structure have been made in the office of the building inspector with due consideration of the comprehensiveness of modern secondary education. Class rooms, gymnasium, drill hall, lunch room, bicycle room, library, and laboratories, all have been planned to afford the greatest facility for scientific teaching in the midst of beautiful surroundings. The school itself, in spite of the smallness of its beginning and the temporary character of its housing and equipment in the old Curtis Building, has won the respect and confidence of the city. It has had from its origin the loyal and enthusiastic support of the citizens of Georgetown. That so worthy a part of the city's educational system is soon to be magnificently housed should be a cause for satisfaction to citizens in general, and especially a subject of congratulation to all parents and pupils of Georgetown.

The Business High School, though located in a rented building, is suffering from no constriction of space. The rooms of the old "District building" are large, well ventilated, and adequately lighted; the class rooms have been more than sufficiently numerous. In nearly every particular the school has been as well accommodated as if the building had been specifically designed for the needs of commercial instruction. The serious drawback has been the lack of an assembly hall, as a center from which many of the impulses to *esprit d'école* should emanate, as making possible many valuable lectures from business men, Trustees, and school officers. During the past summer the landlord generously responded to a demand for such a hall by constructing upon the rear portion of the building two stories, affording additional class rooms and an assembly room easily accommodating 500 students.

The Eastern High School, though regarded at the time of its erection, in 1893, as sufficiently commodious to anticipate the growth of the school population of Capitol Hill for a score of years, is already overcrowded. It is necessary to hold classes in the end of an open corridor

and in the basement adjacent to the boiler room. These facts are set forth, not with a view to secure any immediate action, but to show the ready recognition of the value of high-school courses and the avidity with which every additional facility is seized by the people of the District.

It is also worthy of note that the Central High School, built in 1882, is in a disreputable condition in many respects from the insufficiency of the repair fund. Rough, uncalceimined walls, filled with cracks and covered with patches and discolorations, defective plumbing, inadequate and rude lavatory conveniences, and unpainted and decaying woodwork are deplorable object lessons for pupils and an example of the unwisdom of a business policy that saves the cost of repairs today by increasing it a hundredfold for the years to come.

COURSES OF STUDY.

President Tucker, of Dartmouth College, in his address at the recent dedication of a great high school in a northern town, said: "The high school of the city, in the quality of the teaching, in the range of the instruction, in the variety of its equipment, occupies the place held by the college of earlier generations. This advance has cost much, but it has brought with it great public compensations."

The educational system of the capital city is still young. The Central High School, which had its origin in 1882 in a consolidation of the boys' and girls' high schools, themselves the outcome of the advanced grammar schools, has had a rapid and phenomenal growth. At its inception there were 13 teachers, 350 students, and an educational equipment which consisted of little more than the building and its outfit of desks and chairs. Today the high school includes over one hundred skilled men and women as its teaching corps, 2,300 pupils, adequately housed in four buildings, expensive apparatus for exhaustive scientific training, laboratories arranged to facilitate every phase of this work, appliances for physical culture and military drill, and such libraries as fill in part the city's sorry lack of that most essential adjuvant to the schools, the public library.

Without restricting traditions concerning the old subject-matter of classical instruction, the Washington high schools have been in active sympathy with the progressive thought underlying the movement styled the "new education." It seems eminently proper in this report to elucidate some of the present aims of secondary education, and to point out something of the tangible and measurable results which the city has received in return for the generous expenditure of public money.

Throughout the length and breadth of the land this great country needs broadly educated men, of largely developed thought power. The nursery for the development of the American citizen, if not the main factor in his production, is the public school; consequently, as the very continuance of our republican institutions depends upon the character

and intelligence of the American people, the central idea of our system should be, through the development of character and mental power, to secure a high standard of citizenship. If the success or failure of every American school is tested by this standard, if the system of every superintendent or the value of every "movement" conforms to it, there need be no fear of the ultimate success of public education.

In the earlier half of the century the great leaders of educational thought held closely to the idea of citizenship as the desirable and necessary resultant of the teaching of the common schools, but as the conditions of society were far simpler the number of subjects taught was small and the diversity of courses of study slight. The "little red school" of the country districts and the graded school of the town alike were satisfied with the rudiments of knowledge; the academy, mainly a fitting school for small colleges, was necessary for students who desired literary or classical study; the high school did not exist. Today the boundaries of human knowledge have been widely expanded; the multiplicity of invention has increased the complexity of existence, and the resulting demand upon public education is far in excess of the early standards. The high school has found its place in every progressive community. These changes, while they have not altered the great objective of training—knowledge, character, and mental discipline—have manifolded and diversified the routes through which this objective may be reached, adding much to the time and effort required of the pupil, and greatly to the expense to be borne by the public. If this may be restated, it may be affirmed that while the old education arrived at its destination through a broad and well-beaten road, the new education has put that destination measurably farther away and made it accessible by many parallel pathways. Students may be content if they can arrive over one of these routes; very few can travel more. Directors of education are confronted with the ever-broadening responsibility of seeing that alluring paths do not lead from the goal, that they are kept free from débris and danger, and that the student progresses with speed in proportion to his powers.

This city sends annually to the various high schools approximately a thousand pupils, who vary widely in condition, ability, and aspiration; the common problem is the development of their mental faculties, but there can be no "slop-shop" methods in fitting their educational garments.

Emerson, with large vision of the dangers of mass education, wrote in his essay on Individuality: "In large schools there is always a tendency to omit the endless task to meet the wants of each single mind, and to govern by steam." An immense step is taken in the direction of individualism in teaching when the course of study is enlarged and diversified to accommodate the classified needs of all pupils; an ideal condition will be reached when the methods of instruction are such that the teacher, with keen insight into the personality of the student, can develop each as an individual.

Annually pupils are found, as they enter the high school, to belong to some one of the following groups: (a) Those who desire to enter academic college, or technical school, (b) those preparing for the normal school, (c) those preparing specifically for business life, (d) those who wish to emphasize scientific studies, (e) those who desire to put stress upon modern languages, (f) those who want the broadest possible development without specialization of any sort. There can be no difference of opinion concerning the duty of providing for these groups or classes of students such opportunities as will both secure the great fundamental desiderata of all secondary education and allow pupils to attain their definite and legitimate personal aims. Indeed, this obligation is so compulsive that it may be formulated as an educational principle that high-school curricula should be so arranged as to develop the maximum of thought power, character, and knowledge, but with sufficient flexibility to embrace a wide variety of specialized resultants.

There are insuperable obstacles in a great school to the education of every student in the line of his own abilities and aspirations under proper expert advisement. The cost of this sort of individualism, which must be considered as the ideal education, is an effectual bar to its adoption; were this barrier nonexistent, it is a question whether the high capacities which it would exact from the great body of teachers could be discovered. The educational world contains its quota of experienced and gifted men and women, but the most hardy defender of the profession will not claim that the rank and file possess insight into human nature that approaches genius, or experience which renders their professional judgment that of educational experts. With these impediments to ideal standards, and the opposite danger of narrow and rigid courses, a settlement of what may wisely be done under existing conditions and limitations is exacted from those officers who are responsible for the existent order.

The present high-school course is a development from years of change, embracing some failures and not a little in the way of satisfactory experiment.

An examination of the following tabulated outline shows the practical working of the principle elucidated. It is argued that the diversity in courses primarily differentiates large groups of students, and that within these courses the permutations of the electives allow an endless variety of legitimate educational aims to be satisfied. It is not claimed that the schedule is without known defects; on the contrary, it is unquestionably too elastic for the most satisfactory preparation of pupils for the normal school. As the result of experience, it can be predicated that for the best interests of the grade schools the course for the normal candidates should be made less elastic in view of its specialized object. Students in commercial schools are trained to meet the emergencies of business life; in "college courses," to meet the requirements for entrance to the university.

Courses of study outlined.

FIRST YEAR.

Academic.	Scientific.	Technical.	Business.
English. History. Algebra. Latin.	English. History. Algebra. German or French.	English. French or German. Algebra. Manual training. Drawing.	English. Business arithmetic. Bookkeeping. Penmanship. Shorthand. <i>Typewriting or mechanical drawing.</i>

SECOND YEAR.

English; English history. <i>Greek.</i> Geometry. Latin. Physics or chemistry.	English; English history. <i>French.</i> Geometry. German or French. Physics or chemistry.	English. French or German. Physics. Geometry. Manual training. Drawing.	English. Bookkeeping and business practice. Commercial law and commercial geography. Shorthand. Typewriting. <i>Advanced mechanical drawing.</i>
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THIRD YEAR.

English. Latin. <i>French.</i> <i>German.</i> <i>Greek.</i> <i>Biology or chemistry or advanced physics.</i> <i>Political economy.</i> <i>Trigonometry and surveying or history.</i>	English. German or French. <i>Biology or chemistry or advanced physics.</i> <i>French.</i> <i>Political economy.</i> <i>Trigonometry and surveying or history.</i>	English. <i>French or German.</i> <i>Physics or chemistry.</i> Manual training. Drawing. <i>Trigonometry and surveying.</i>	Each year of this course is complete in itself.
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FOURTH YEAR.

English. Latin. <i>Advanced biology or chemistry and mineralogy or physics.</i> <i>Greek.</i> <i>Geology.</i> <i>History.</i> <i>Analytical geometry and college algebra.</i> <i>French.</i> <i>German.</i>	English. German or French. <i>Advanced biology or chemistry and mineralogy or physics.</i> <i>Geology.</i> <i>History.</i> <i>Analytical geometry and college algebra.</i> <i>French.</i>	English. <i>French or German.</i> <i>Physics or chemistry.</i> <i>Analytical geometry and college algebra.</i> Manual training. Drawing.	Students of the second year may substitute an equivalent amount of work in English and shorthand for bookkeeping, or in English and bookkeeping for shorthand.
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NOTE.—Electives are printed in *Italics*, all others are prescribed. Four studies in each year are required for graduation.

The boy who enters West Point or Annapolis does so to be specially trained to meet the exigencies of war. That the embryo teacher should have the best development for her profession can not be controverted. It is respectfully submitted that changes may be made in our present requirements which will materially further this end. While this argument for such restriction is advanced with confidence, on the other hand it is as firmly believed that an expansion of the present opportunities in other directions is wise and necessary. As an illustration, an option between the prescribed study of Latin and a modern language at the expiration of two years of the classical course would materially advantage a growing group of students who desire semi-technical or "Latin scientific" courses after graduation from the high school.

That danger does not lurk behind smiling promise no superintendent or director will contend. It is however an ardent conviction of the writer that with proper checks and balances the application of this great principle of flexibility may be extended, and that under alert and expert supervision the result will be great and enduring progress.

A comparative examination of the course of study as printed above will show that it embraces all the subjects which centuries have proved most powerful agents in the production of mind. Greek, Latin, and mathematics are the nuclei of the old education. The place of this noble trio in any scheme for the education of youth is unassailable. They are honored in our system. Methods of teaching these branches, and results, will stand comparison with the product of the oldest and most conservative schools. No discussion of these branches seems necessary; but it will not be out of place to account for the prominence of science in the course of study; to substantiate the claim that English has to its high position as a universally required study; to set forth the results of the establishment of the first complete public commercial school in the country; to explain the correlation of manual training with book work; to make plain what is claimed for the modern language electives, and to plead for a higher position for art in the curriculum.

THE PLACE OF SCIENCE IN SECONDARY SCHOOLS.

There have been stupendous changes in the conditions of society since the day when classical education was planned to meet all the requirements of a liberal education. With the present century began the marvelous and triumphant march of scientific conquest. There has been no limit to the direction and extent of investigation and discovery. There is no bound even in the limits of the universe to future achievement. These decades of advancement have metamorphosed the world and multiplied the complexity of organized existence. Such vast changes in material conditions have had a cogent influence upon the subject-matter of the new education. In an age which harnesses the

titanic forces of electricity and steam for the willing service of millions, which can find no nook in domestic life, no cranny in public affairs that is not to be illuminated by invention, a more extensive grasp of scientific methods and of the great body of scientific facts becomes an imperious necessity for him who would understand the meaning of his surroundings. In so far, then, as practicality must be recognized as a factor in determining the elements of a curriculum the study of the exact sciences can not be ignored. But aside from this conception, if by the term liberal education we mean that which enlarges and disciplines the reasoning powers, strengthens the judgment, and elevates the moral sense, scientific studies may be given coordinate rank with the studies of the older classical courses.

There were, not many years ago, two strong indictments which were rightfully made against the full recognition of science as an element of the broadest development and culture. First, its principles were not "developed into such well-arranged systems as would afford fit material for the highest order of mental training." Second, the methods of teaching had not been sifted by trial nor had the body of instructors been bred into efficiency through long service. Time has in a great measure eliminated the first difficulty, while the application of scientific method to the educator's problem, how best to teach science, has done much to overcome the second. Indeed, the habit, borrowed from the laboratory, of testing educational hypotheses by the experience of the class room—a habit which has come extensively into the educational world—is one of the sources of the vigor, power, and promise of the new education. As we write, both in the collegiate world and in the field of secondary education science in itself is recognized as being as efficient for culture and development of mind power as the old classical training. The change has come gradually, not without bitter controversy, not without setbacks and frequent defeat, but it has come. The old strongholds of opposition have given way; the victory is complete. Perhaps one of the most convincing evidences of the prevalence of the spirit of the new is to find the president of a conservative college with colonial traditions heralding such sentiments as the following: "I can no more conceive of an educated man of to-day as devoid of a scientific spirit or ignorant of the methods and results of the natural and physical sciences than I can conceive of him as devoid of the spirit of common humanity, or ignorant of the great historic forces which have been at work in the life of men and of nations. The broader and finer qualities which belong to the habit of careful observation, the patient search for the immediate and sufficient cause of phenomena, the imagination which carries working hypotheses along which the mind theorizes its way into the realms of fact—these certainly are the qualities of an educated mind."

The laboratory is the corner stone of our modern education. This is as true in primary work as in secondary and collegiate methods. The

spirit of this postulate pervades the Washington schools; its effects are to be found in the flower lessons of the first grade, in the vapor lessons of the third, as powerfully, as effectively, as in the high school, the home of chemistry, physics, and biology. The influence of science is the cause of the increasing betterment of supervision of schools; it is the motive of progress for the great body of our teachers; it is the star of future promise.

It is a serious question whether the greatest effects of successful education are easily appreciable—whether its best product is tangible and measurable. The logical consequence of the larger prominence now given to the concept of utility is the demand that the results of instruction shall include visible products which will be of “direct help toward securing a livelihood, which, so far as society is concerned, serve most directly the end of material progress.” The student must find that his wares have a “sure and quick market in the material demands of modern life.” With this basis for judgment, the tool shops and the business school can perhaps lay claim to results of broader numerical extent than the scientific laboratories. Still we can justly claim for the high school that it has been able from year to year to carry a percentage of its pupils further and further into science *per se*, and that many of them before graduation have mastered an allied art. Chemistry has to its credit many expert sugar refiners, the value of whose well-compensated services came solely from the proficiency acquired from the high-school course. Physics has prepared many an incipient patent attorney for intelligent research in the realms of invention, while biology is at present fostering classes in histological work which shall be of immediate service to those who aim to enter the medical profession. These are instances of the more patent practical results. There are those which are more subtle. A man readier to meet life’s struggle, whatever his vocation may be, is developed by constant study of nature. Trained and delicate senses, alert attention, the habit of concentration, the ability to make independent deductions, and to achieve and to express clear concepts form a noble practical equipment.

It can be maintained that science teaching has results far more essential to a liberal education than those of immediate or indirect utility. The search for truth is the constant occupation of pupils, whether in simple experiments or elaborate research. What stronger lesson for honesty of character and integrity of method! The principle of the scientific hypothesis is the basis of good citizenship; its methods are the only ones to apply to the rotten spots in political and sociological conditions. How can such a momentous question as that of unrestricted immigration be successfully treated other than by applying to the best theoretical remedy (scientific hypothesis) the test of experiment, and with the inflexibility and integrity of the scientist discarding unsuccessful results until the solution is discovered? How can great educational theories, breathing revolution, be measured but by such tests?

Indeed there is no classified portion of life's industries, no political, financial, religious, or social situation where the scientific habit of mind is not an essential.

It is worthy of note that the fairly efficient equipment of our high-school laboratories has been a hurried and to some extent an unnatural growth of the last decade. The expense has been disproportioned to the size of the fund appropriated for the contingent expenses of the public schools. Universally, emphasis has been laid upon the purchase of apparatus; the laboratories themselves have in consequence been deprived of many conveniences, oftentimes of necessities, while, even with this plan of expenditure, such apparatus as is now possessed is inadequate. The situation which produced these detrimental conditions is still existent; with the tremendous growth of electrical science alone, the necessity for further apparatus is increasing. The cost of education is swollen as it advances. It is inevitable, in a progressive age, that the demand for educational facilities should exceed the supply, yet it follows from what has been put forth concerning the scientific idea in education that munificent expenditure will bring magnificent returns.

MANUAL TRAINING.

Shopwork exists in our schools in response to the widespread clamor for greater practicality in education, combined with belief now surely grounded in experience that a properly balanced relation of hand and headwork produces results which transcend those of pure academic training. Throughout the United States the idea underlying manual training is "tool work as an educational discipline," which "distinguishes and differentiates it from trade-school teaching," the primary aim of which is to give the apprentice a thorough and practical knowledge of some handicraft.

The layman sees in sewing, cooking, and tool work little beside their eventual utility; the expert sees that through these avenues a new principle has been discovered which demands the introduction of manual training with essential unity of purpose in every school from the primary grade through and including the high school. Here in Washington the introduction of the Froebelian idea into the lower grades, the prevalence of instruction in drawing, color, and clay modeling, the upper-grade work in cooking, sewing, and carpentry, assure the unity and universality of manual training below as well as in the high school. The superintendent of the Washington schools was among the pioneer seers, early recognizing the educational value of all hand training as well as its material and practical benefits.

Aside from the direct value of shopwork there has been abundant testimony to the soundness of the doctrine, that "the combination of mental and manual work does not diminish the amount of purely academic work done provided the manual work is held properly in abeyance." Dr. Henry H. Belfield, director of the Chicago Manual Training

School, in his report to the Commissioner of Education in 1892, states, "I visited the Cheatham Hospital and Library, a "blue coat" school, limited to 100 boys from 8 to 14 years of age who are instructed in the usual studies with drawing and woodwork added. The head master informed me that before the introduction of manual training 93 per cent of his candidates passed the Government examination, but that since the introduction of manual training not a candidate had failed. He is enthusiastically in favor of manual training as a help to mental discipline."

In our own schools this stimulus to bookwork is as marked. The shops, besides giving to the city, as their product, graduates with a considerable degree of proficiency in the use of tools, with an appreciable development in the ability to plan and arrange work, with a keen interest in hand work, have also assisted materially in securing from the aggregate of students who have followed the technical or elective manual training courses, a higher standard of mental cultivation. Further than this, the shops have numerically increased the educational product of the high school to an extraordinary degree. Many of those pupils, who in the early eighties were considered by parents as sufficiently grounded at the end of the eighth-grade training to become wage earners, or who from narrow family circumstances seemed forced at an early age to earn a living, are now kept in school, parents recognizing the immediate utility of the technical course as an element of success in the struggle for existence. Pupils, as well, appreciate that this training has a money value in the markets of the world and are willing to make sacrifices to secure it, consequently the type of boy who formerly left the public schools before the age of fourteen is now retained and developed for from one to four additional years. In every city there are youths for whom academic education has no charms. From the character of their mental endowment they are unable to grapple with books with enthusiasm; literary studies, even when attacked with resolution, seem unproductive, often hopelessly so; yet these same students have within them a capacity for evolution through doing. In the shop and in the laboratory they are at home; stimulated by confidence attained through successful efforts here, properly led by teachers who understand their intellectual outfit, they group about the focal studies, science and manual training, successful work in other branches, generally mathematics, frequently a modern language. Both these classes of pupils are numerous; the number in each who have been affected by the new opportunities is large; the total educational increment for the decade in which manual training has existed is of immense value to the city.

As every trained or partially trained individual added to the body politic who might have increased the perilously large number of the untaught is a distinct gain in the average of citizenship, it is worth while to credit manual training with what it has done in a few special

instances during the past ten years. Since the foundation of the high-school tool laboratories there have been every year pupils whom none of the various courses could retain in school. Some were willing to drop out through disgust at failure in the whole or a part of the book work, others were lured into idleness by bad company. For them every effort of teacher or parent to secure attention to a full line of study in any one of the regular courses has been ineffective. Such students, regarded by their teachers as "utterly incompetent" or "incorrigibly lazy," drifted in spite of all rescue effort into the current carrying away the lost. The offer to these students of an emphasized manual-training course, consisting of from twelve to twenty hours per week in the shop, supplemented by one study (usually mathematics or English, occasionally both), has been joyfully accepted in numerous instances. Recently a young man in responsible charge of a large number of iron workers in a Western city said, while on a visit to the principal of his old school, "I owe all I am in character to the steadying your course in manual training gave me just when I was inclined to cut school and go to the bad, and, besides, I got the foundations of all I know as a workman in your shops." These facts will serve to illustrate the postulate already advanced that the high-school system should not be a rigid one, but adjustable to diverse circumstances and a variety of aims. It is believed that the principle should continue to avail, whatever may be the development of manual training in our city in the near future.

At the present time tool shops for high-school pupils exist, on account of insurmountable financial conditions, only at the Central High School, the Eastern and Western branches being deprived entirely of these opportunities. While this is true, hand development is generously provided for in various drawing courses and extensive laboratories. Experience shows that the degree of mental culture and power achieved by any system of schools varies, *ceteris paribus*, in a measure proportionately to the prevalence of the idea of manual instruction. If there is any conclusion to be drawn from these facts it is that the compelling voice of experience directs, first, that all those not now receiving some sort of manual training should be reached; second, that there should be no break or cessation in this training of pupils of either sex in any of the high schools, and, third, that by changing in some measure the content of the present plans for shop work the large class of those who wish to lay still further stress upon tool work may be accommodated.

BUSINESS HIGH SCHOOL.

We can not at the present day cope with the problem of public education without a broad recognition of the principle of practicality. To crystallize this idea in a definition, it is "that principle which takes practical shape in education in those methods which, so far as the individual is concerned, are of the most direct help toward securing a live-

lihood, and which, so far as society is concerned, serve most directly the end of material progress."

There are serious limitations to all narrowed education. Those whose focused aim is an immediate and hurried preparation for the everyday struggle for existence may not hope to gather the richer fruits of knowledge and power. While this is self-evident, there is a large danger of underrating the particular values which may result from specialized training. "The principle of utility as now applied to education has an increasing protective value, both to society and to the individual. It is doing a great deal toward relieving society of the tremendous burden of the incompetent. We ought not to expect that society can ever be relieved entirely of this burden, for its requirements are growing so much more exacting. There are fewer and fewer things for people to do who can not do some one thing well. Society is outgrowing the incompetent. Intelligence must be served by intelligence. The education, therefore, which makes men more competent breaks up the dull mass, which as a mass always falls to the bottom. The great need in a good many kinds of business is not more industry, more hard work, but more of the Yankee quality of 'calculation.' No New England farmer, for example, can work hard enough to make farming pay. It is just as necessary to study the markets as it is to till the fields. Study changes the character of occupations. The infusion of any real intelligence into an occupation changes in time its grade or lifts the workmen into another condition. Competency, the power to do a thing well, is a great industrial virtue."

Aside from the protective and commercial values consequent upon a recognition of this principle, there are distinct benefits for the individual whose instruction is molded by its mandates. "The claim is made for the technical school, in distinction from the college, that there is more purpose on the part of its students, more unforced attention to study, more earnestness, if not enthusiasm, in work. In a word, that the morality which lies in mental discipline is higher in the school than in the college. I am not sure that there is not a certain amount of truth in this claim. Fewer students probably are sent to schools of technology than to college. The practical aim is more constantly present in the daily task. The curriculum is set to faster time. The whole business object is made more distinct, and exists as a larger motive force. Out of this situation a certain result is gained which may be fairly said to have a moral significance. I acknowledge the morality of attending to one's business. And as opposed to the immorality of all purposeless, heartless, uninterested study, I put it above price."

Washington may be modestly proud of her application of these ideas to the course of study in the grade and high schools. As a necessary corollary of the acceptance of these principles came the evolution of hand work, exemplified for both sexes and from kindergarten to college by some phase of manual training. While drawing, sewing, cooking,

carpentry, forging, machine-shop work were diverse but parallel channels of this effort, the boldest application of the idea was the segregation of the business department from the optional courses of the high school and the establishment of an independent and highly specialized commercial school. Many cities have for years recognized the necessity of giving boys business training to assist them in carrying on some line of useful work in the walks of life open to them after leaving school, but it has not been done boldly and completely. There has been a timid recognition of the worth or import of the principle of utility, perhaps with natural fear that its practical working will clash with the most exalted ideal of education, the idea of supreme development of the student's mental and moral powers. The Trustees of the Washington schools, courageously grappling with the educational experiment, included in the public schools that feature of education which, as a private enterprise, has been widely known under the title of "business college." It was not without much muttering and many shakings of the head among the quidnuncs and some protest against the wrongful expenditure of public money on the part of "Vox Populi," but the experimental stage has passed, the years have brought perceptible and substantial results, and now "Vox Populi" is urging an expansion of these privileges.

It is the intent of the school to put its graduates in touch with the world of affairs with sufficient character, knowledge, and judgment to make this product business capital of actual market value. The effort is made to secure this aim through concentrated effort upon a highly specialized course. Shorthand, typewriting, business arithmetic, book-keeping, business practice, and commercial law comprise the larger portion of the specialized drill. As inability to express thought clearly is the curse of business—breeding bitter quarrels and costly litigation, as written or oral expression is demanded of all alike from the cradle to the grave—mastery of the English language is considered as the crying essential of a business course. History and literature are necessarily excluded; the natural sciences through lack of time may not enter; music, drawing, and those branches which make for more refinement and broader culture must be sacrificed.

In spite of these limitations, keeping steadily in view the rightfully contracted purpose of the institution, it must be admitted that the school has more than realized the hopes of those who are responsible for the unique venture in municipal education. The public grasp eagerly for the opportunities of the school. The original enrollment of 80 has swelled to approximately 600. The majority of graduates have secured reputable and remunerative business positions. A systematic inquiry from their employers has proved that though the preparation for business has been of but two years' duration, it has been as thorough as the brief time and the immaturity of the pupil would render possible. These business men, while hopeful of a future

enlargement of the advantages of the institution, are unanimous in commendation of its present achievement. It is an immeasurable gain for our city to have within its paternal care yearly 600 earnest day students and 300 more in the night high school, who are being withdrawn from the horde of the untrained and incompetent. No expenditure can be too great to liquidate the cost of this magnificent achievement.

Success in realizing the modest ideals hitherto held concerning business education should lead to their expansion. It is confidently affirmed, after considerable investigation, that were the teaching corps doubled and a new and far more commodious business high school building erected, there would be no difficulty in securing a largely increased enrollment. Besides those who are forced to undergo the hurry process of the two years course through the urgent necessity of finding paid employment, there are many who are anxious to extend their connection with the school to three or four years to secure greater proficiency in the use of the mother tongue, a larger competency in shorthand, typewriting, and bookkeeping, while there are still others who urgently solicit a wider inclusion of specialized business subjects. If the principle of elasticity is recognized as cogent within a school established for a special purpose and with a restricted curriculum, then it follows that there are abundant reasons for training the business pupil for the real-estate office as well as the typewriter's room, for banking as well as for the countingroom.

There is another direction in which reform should be made in this portion of the high school system. From the inadequacy of salaries now paid, the corps of teachers, though composed of scholarly and zealous men and women, possess but little actual acquaintance with business life, little knowledge of business principles beyond theory. For a majority of the positions this perhaps is not a serious disadvantage, as the lack is more than compensated for by pedagogical competency. But it is an essential that the general flavor of the teaching should be that of business actuality. This can not be secured without the leaven of a small quota of teachers who possess most unusual capacities. To a thorough knowledge of business obtained by extensive experience should be added pedagogical training and the natural gift for teaching. With a considerable percentage of teachers of this character the eminence of the school would be unquestioned. To obtain such a desiderative should not be regarded as but a chimerical possibility. Such men do exist; they may be secured if paid their market value.

True progress is not made by leaps. It is not hoped that this school may be elevated at once to the summit of an ideal, but a knowledge of its successes and a belief in its aspirations should lead to fruitful efforts to secure the most rapid advance in the direction of the highest standards.

LANGUAGE.

We need go backward but a few years to reach the epoch of Lindley Murray. Everywhere he was sovereign in the kingdom of English. The common schools challenged admiration for the universal dissemination of "analysis and parsing" ability. It would be illogical, if not ridiculous in this day of better things to deny the developing power of English grammar as taught in earlier times; that as a disciplinary study it gave much, must be admitted; it would, however, be absurd to claim that its most fervent study has ever developed in more than sporadic instances such a mastery of the mechanical difficulties of our language as is necessary for its facile use in the expression of thought. The new birth in education has rattled these dry bones, promising that they shall be fleshed with beauty and adorned with comeliness. The realization of this hope must depend upon the fearlessness with which we face our present plight, the frankness with which we admit the deplorably low achievement in the use of language by the mass of our people, the loftiness of our ideal for the future, and the means put in operation to attain it.

In this connection it is unwise to consider as a sop to our pride the glorious, if limited, literature that is to our credit as English-speaking people and as Americans, nor is it logical to include in the estimate the great body of highly educated people who tincture the mass with their culture. All public-school education has to deal with the masses; its products should be estimated by the locus of a line representing the general. If this is admitted for the purpose of this discussion, for the status of the English tongue we must look broadly among our American people.

On the farm, in the workshop, in the office, everywhere in this broad land there are today men and women whose schooling has not been small, yet whose knowledge of sentence elements and structure is so impractical that they are hampered to unburden their ideas without obscurity. The printer before his case recognizes the unmarked location within it of every type, he knows the multifarious possibilities of space and em and the comprehensiveness of the forms of the font; easily, almost unconsciously, he fills his stick with word forms, with an eye single to the perfection of the column he is to set. We should hope to find our children at the age of fourteen able to stand before the cabinet containing classified parts of the English sentence with the expert knowledge which recognizes every form and its possible use, and with the power to employ each in turn as it may be adapted to the expression of his idea. But in fact it is woefully common to find ability to use only the simple sentence, to misuse connectives and the compound form, and a satisfaction with shiftless expression that permits any kind of statement if it *might be* understood.

The self-made business man, through the necessities of his calling, has schooled himself to be clear in his writing, lest lawsuit may step on the

heels of misunderstanding, but not infrequently the complaint is heard from his sad lips of the iron shackles of early training that now contract opportunity. The newspapers, if we set aside the great metropolitan journals, tolerate and perpetuate other than the highest type of composition. Indeed these great teachers of the people, these sheets which enter the most lowly door, have been so unmindful of their high obligation to elevate our speech by examples of purity, that "newspaper English" has become a byword and a reproach. Humiliating as these admissions are, further concessions are necessary. In so far as all defensible written or spoken discourse must be based upon logical principles, in so far as expression compels antecedent purpose and plan whose consequent is nicety of judgment as to the unity, arrangement, and completeness of well-selected subject-matter, our cultivated classes have been found wanting.

The boundless ambitions of Richelieu included the purification and enrichment of his mother tongue. His love for the aggrandizement of France showed him that through the Académie Française he might further the ambition of his nation to furnish the civilized world a language so perfect that it should become the universal speech. It is due not to the august Académie, not to the splendid epoch of the Grand Monarch, not to any circumstance of French history, or any native or inherent characteristic of the French language that French is to-day the prevalent court language, but it results from the unanimity with which the people of France have mastered the mechanical difficulties of their tongue and the devotion to it as an art of such men as Maupassant and Flaubert. It has passed into a proverb that whatever is not clear is not French; the nation is alert to make this true of the speech of its every peasant. French literature readily secures that homage for the beauty of its form which we accord to the plastic art of ancient Greece. We may hope for much for our common tongue when a great public sentiment is as zealous here as in France for widespread purity and beauty of written and spoken language. When the pulpit and the bar, powerful newspapers, and the mighty world of business join the crusade that must be preached by schools and colleges, then we may be assured of the ultimate triumph of exalted English speech.

We have seen the dawn of a new day, but we are still in the half light of the morning; the next generation may see the glory of the noon. This expectation is supported by the results of the last five years, during which time the report of the committee of ten from the National Educational Association has stimulated and unified the effort for better English in our schools. The clear statement by the committee of the limited purpose of English teaching has been most beneficial to the profession. The subsidiary interests which might be subserved by English study are now subordinated by teachers to the purpose, first, of enabling pupils to express their own thoughts; second, giving them an acquaintance with good literature and the means of extending their acquaintance.

Mastery of a language is shown by an ability to write it. To write it well is a sign of broad knowledge, cultivated taste, and logical mind. In the Washington high schools there has been no effort to separate training in expression from the cultivation of literature; their mutual dependence has been most constantly borne in mind, yet without doubt the strong emphasis of our school is now rightly placed upon the effort to better expression. When mechanical difficulties arising from practical lack of knowledge of sentence forms and simple paragraph structure shall largely disappear in the first eight years of pupil life, then it will be possible to give stronger recognition to the life-giving power of noble literature, and through its lofty ideals to enrich and beautify the lives of pupils.

Already enough of success has resulted from clear-cut conceptions and better teaching to warrant the belief that the schools will be equal to the responsibility of bettering both the standard and use of our mother tongue. It will demand from English teachers competency bordering upon genius, the loyal and well-directed support of instructors of all other branches, and the insistence of those who prescribe courses of study that, whatever else may become elective, English shall remain the required study of every course throughout the pupil's connection with the school.

As an aid to exhaustive training in English, and of less importance only to the mother tongue, is the study of "modern languages." Experience has shown that even an elementary understanding of Latin is of great value in strengthening grasp of English. It is preeminently true for those whose course includes neither Latin nor Greek that there is no better way to insure an appreciation of the vigor and beauty of our own tongue than constant comparison of its characteristics with those of another language.

When continental languages were taught by American-born teachers with half preparation and unscientific method, it was but natural that these languages should be neglected, if not despised; but the acknowledgment that they must by rights take an honorable place in any scheme of liberal education, from their efficient disciplinary power, wide practical utility, and their knowledge-giving potency, has metamorphosed method and builded high both the standard of teaching and the capabilities of the instructor. So great has been the betterment that to-day there is no reason why French, taught with the same thoroughness, should not discipline the mind as successfully as Latin, nor why the highly inflected German should not afford drill comparable to the Greek. As a reason for including Spanish hereafter in the high-school curriculum and extending the possibilities of modern language study for academic students, it may be urged that from all proper study of modern and foreign language and literature practical advantages accrue, wider knowledge is implanted, and discipline of the mental faculties of the highest value results.

As an illustration of the practical advantages, trade opportunities will

be multiplied by a knowledge of Spanish and German on the part of these graduates who go south or west. Cuba and South American republics are as yet but partially exploited commercial mines of wealth for energetic Americans. For all those for whom the high school is but a beginning of education, for those whose purpose is to continue student life either as the nation's charge at Annapolis or West Point, or in college or in technical school, the study of foreign languages will be the open sesame to the literary and scientific treasures of other lands. For such their study is not a choice but a necessity if they would keep abreast of an age that outstrips all translation of its recorded progress. While these things are true of advanced students it must not be forgotten that, even in the most elementary school text, the point of view is new and foreign to the American pupil, necessarily giving him a wider knowledge of people and their recorded annals and a bigger sympathy for the human family.

Dr. Gilman, the distinguished president of Johns Hopkins University, is authority for the statement that modern languages are now rightly regarded in many places as equal in value and even as superior to the classics for a large portion of students.

ART.

It is not possible to close this report without an appeal for recognition of the belief that to develop an appreciation of beauty in the child is as essentially the duty of the public schools as to put him in possession of his logical powers or to insure his becoming a successful wage earner through skill in a "bread and butter" study. Our advance as a people since the "Centennial" in the artistic character of our domestic surroundings has been as marvelous as the gigantic progress of American invention. Art and architecture are generally held in higher esteem, and a most hopeful elevation of taste is evidenced in every portion of the country where civilization and culture find a home. If we are to hope to secure the temporal benefits and the spiritual elevation that come to an artistic nation, here, as in the purification of the English of common use, the schools have a holy mission. In the ten or twelve years of pupil existence every child may be made sensitive to the harmonies of color and susceptible to the beauties of form.

Were such training as will accomplish this universal throughout the public schools of the country, the critical taste of the following decade would elevate the artisan product of the United States to a respectable comparison with the most artistic output of Europe. But aside from the natural gain that comes from making art a component part of all life, even the calico of the beggar, there is an enrichment of the spiritual nature, transcending all practical, material benefit that would result for a large proportion of the young from the proper emphasis of art in the teaching of the schools. To approximate this ideal, it is necessary that there should be, first, a strong demand from educators for these high results; second, a positive refusal to regard this branch as

a nonessential, and a greater degree of competency among those teaching drawing in the schools; third, the use of every sort of external inspiration to increase esteem for beauty throughout the great body of teachers; fourth, broad appreciation among the teachers that the elements of art training are to be found in every subject, and that this imposes obligation upon all instructors. Finally, annual scrutiny of the tangible part of the result by a body of experts and an unflinching determination to make each year's failures the foundation for succeeding success should end by making the schools producers of an artistic American nation.

CONCLUSION.

What may be expected as the human product of the high schools? Aside from trained powers of mind and body, cultivated tastes, and integrity of character, we may rightly demand that graduates shall approach the standards of men and women concerning the duties and opportunities of life. The boy must respect his promise of manhood; he must feel that at eighteen his opinion on a question of public policy or morals is of grave moment, in that it will be but a few years until his opinion shall help frame public acts. The girl should go from the school to the home at graduation with an enlightenment and refinement that shall promise well for the lofty influences of the household of which she shall soon be the center. The school which does not realize these aspirations for some of its graduates fails utterly in its labor.

The immensity of the work in the teacher's hands demands transcendent qualifications. The chief duty of the teacher is to teach. This alone exacts wide general education and highly specialized information, supplemented by pedagogical knowledge or normal training. Aside from these capacities, a teacher must be a person of influence and power, with a "gift" for dealing with the young which comes from magnetic sympathy and bigness of insight into the human heart.

The world demands of everyone who stands in relation to others that his soul power and mind power shall encourage noble manhood and womanhood. This call comes with double force to the teacher whose relation is to young and plastic humanity. His personality must be helpful; he must daily demonstrate in his own life the reality of manhood. Aside from the silent influence of the teacher's individuality, he must expect to give impulse to those under his charge; to stimulate them, aside from the studies of the class room, with intelligent counsel. There are endless opportunities for the assistance of those with whom we come in daily contact.

It is no disparagement of faithful and devoted members of the teaching profession to say that not all have these ideal qualifications; yet the consequences of failure of any teacher to reach the full ideal are appalling. The responsibilities of the teacher are so tremendous that none other than ideal qualifications should be accepted as a mark of competency. Perhaps not until the day when there is a practical real-

ization in the land that adequate salaries for ideal teaching is municipal economy, not until all-wise boards of education build defending walls so high about the profession that they can not be scaled by the incompetent, is there hope for advancement in teaching power that shall parallel the revolution in aims and methods of the new education.

There has been no attempt in this report to elaborate a plan for secondary education or to account in detail for all that may be found in high-school courses of study, but rather an effort to show that, while the great aims of teaching have not changed since the days of Ascham, the new education has brought new methods and new channels to supplement the old in securing these great aims. The ideal of flexibility in correlation of studies has vastly augmented the number of pupils taught, while it has not lowered the character of the education given. The principle of utility has made two blades of grass to grow where but one grew before. The great educational thought of our era, indissolubly wedded to all that is good in the old education, has effected reforms which will increase the number of pupils in the schools, expand the years of instruction, and better the teaching wherever an American flag flutters over a schoolhouse.

Very respectfully,

F. R. LANE.

Mr. W. B. POWELL, *Superintendent*.

REPORT OF PRINCIPAL OF NORMAL SCHOOL.

JUNE 30, 1897.

DEAR SIR: The report of the work of the Washington Normal School for the year ending June 30, 1897, is herewith respectfully submitted:

ORGANIZATION.

The school during the year now past was divided, as hitherto, into two sections, both located in the northwest part of the city—one in the Franklin Building, at the corner of Thirteenth and K streets, and the other in the Dennison Building, at Fourteenth and S streets—with the same number of teachers and pupils at each place, the principal dividing her time and effort equally between the two.

TEACHERS.

The faculty consisted of the following members:

Ida Gilbert Myers, principal; Elizabeth V. Brown and Anne M. Goding, training teachers; Helen D. Wise, S. Ella McMahon, Mary C. Breen, Elizabeth A. Hummer, Edna V. Riddleberger, and Elizabeth C. Erly, practice teachers.

PUPILS.

At the beginning of the year the school numbered 66 pupils, 50 entering in September, 1896, and 16 in September, 1895. All came in by a competitive examination of the graduates of the high school. On March 2, 1897, two pupils, Annie M. Lee and Alice Putnam, withdrew from the school, leaving a membership of 64, which constituted the number for the remainder of the year. The 16 pupils who entered in September, 1895, alone were graduated. The remaining 48 were held to profit by the two years course of instruction so wisely provided by the honorable Board of Trustees. The benefits of this extension of time for training can not fail to redound to the permanent advantage of the school children under the influence of these young teachers, an advantage so tangible and measurable that it can not fail to be seen to abundantly justify the measure which produced it. The teacher, more than another, needs sound and broad scholarship. He, by the long and deliberate process of assimilation, needs to have made quite his own a large body of knowledge properly arranged and related, to serve as the educating and understanding influence by which children are to be taught and directed. By this extension of time for training, we expect, with a certainty of fulfilment, a broader culture for our pupils, richer experiences and larger sympathies, all counting for a stronger development of character, for finer and surer comprehension of the teacher's place and work, and for a more intelligent and helpful meeting of the child's legitimate demand to be well equipped for a successful and honorable future. The entire faculty will meet with zeal and fidelity the effort on the part of the Board of Trustees to secure by this measure greater efficiency in the teaching corps of our city.

PROFESSIONAL WORK.

The skeletal basis upon which the professional work was built divided itself into three parts: (1) A knowledge of things; (2) a knowledge of children; (3) the power to select and arrange the one to be used as an instrument in the development of the other.

The first embraces the academic work, the second the child study, and the third the building of a course of instruction upon a philosophical basis, made possible by the first and second divisions of the work.

The academic work up to a certain point was well accomplished by the training of the grades and the high school. In the normal school, however, a new purpose appears. To the necessity for exact and definite knowledge, which is the more direct object of study in the earlier work, must here be added the larger, maturer power to relate and bring into a harmonious whole the somewhat incoherent mass of material gathered in the preceding years of study, to know the possibilities of this newly organized material as an instrument of development and to grasp its application to the actual demands of life. To

meet this larger purpose, also, the subjects taught in the grades of the city school were used as means.

The general plan of academic work can be best seen by submitting for consideration an outline of the study of a single subject. For this purpose I have chosen, as illustrative, the unit of animal study.

We could best meet the requirements by a study of the animal life of our environment rather than by a study of its development from the lowest to the highest forms; so, in this subject, those familiar animals which stand as types of large and important classes were selected. With the early future teaching of the normal pupils in mind, our immediate purpose was to secure for them a first-hand acquaintance, as intimate as the conditions could furnish, with the animals chosen. In cases where it was practicable, as, for instance, in the study of insects, the gnawing and flesh-eating animals and the birds, representatives of each class were housed in the schoolroom, where they lived under the care of the pupils for a sufficiently long time to reveal some of their ways of living, feeding, resting, self-protecting, caring for the young, etc. The animal was studied with direct and emphatic reference to the bodily activities brought into play by his natural habits and to the special adaptation of his different parts to the work performed by them. Sketching in all cases, and modeling in clay frequently, accompanied and gave first expression to the seeing.

In this way, by its essential and predominant characteristics of habit and structure, the whole animal was built up, translated, and understood. Around each one used as a type were grouped, after similar study, those animals related to it. Here free use was made of the Smithsonian Institution, National Museum, Medical Museum, Fish Commission, and Zoological Park, where the kindest interest and the most helpful spirit were shown by those in charge of these departments. When these means of information had been used the pupils were then only considered prepared to read and study intelligently and profitably the recorded experiences of others along these lines. Lists of books comprising those acknowledged to embody the best authority on this subject were given them when they again utilized the resources of the city, the departmental, Congressional, and free libraries. This going outside proved specially helpful, as it showed them where, in the future, information might be found. With the study of each class and as the outcome of constant comparative work there was an approximate placing of it in the scale of animal life, with a somewhat definite study of its relations to both higher and lower forms. The animals represented by the types studied were also placed geographically and sometimes historically. The pupils made compositions, descriptions, stories, reproductions, and comparisons based on this work. Literature, or what these creatures had put into the thoughts of gifted men, who in turn have handed to us the inspirational side of the matter, was gathered, read, judged, and often learned.

This, in outline, was the plan followed in teaching botany, geology, and the other nature studies. The relations of these different subjects to one another, which were constantly asserting themselves, were held up in a strong and emphatic light, to the end that the pupils might grow out of the sense of isolation into a consciousness of the harmony and oneness of the whole body of truth.

Only a cursory reading of the above shows that many of the expressional subjects—language, reading, penmanship, spelling, drawing, and often music—were taught or aided, as the condition dictated, by means of these nature subjects.

The academic branch of the work of our school, with that of the schools below it, has, we think, gained for the pupils a genuine interest in investigating—finding out for themselves—a dread of the fatality of loose and inexact information, a definite and systematic habit of work, accompanied by a knowledge of the informational resources of the city and how to use these for future strength and skill.

Upon this foundation what in them is now crude may become finished, half knowledge may grow to completeness, and the present limited outlook may stretch to broad and comprehensive views—all essentials to professional strength on the part of the teacher.

In the second division of the professional work—the establishment of a practical psychological basis for teaching—it was thought best to avoid both the subtlety of metaphysics and the prodigality of broad cast and, at present, indeterminate experimentation known as child study. This seemed the place for neither of these; instead, a few fundamental facts were established as a working basis. By looking out upon children measured by a looking-in upon themselves, coupled with some ideas of how the race has developed, the pupils came into possession of the first important truth—that all knowledge comes through experience or by gathering the experiences of others. They saw, too, that learning from things—experiences—comes first; from books, later; that the former is the key to the latter; that the richer, the more complete, the more comprehensive the experiences with things, the greater the possibilities for later development when the instruments of learning are symbols, but which, to be of value, must have, as interpreters, a foundational experimental study. This brought the necessity for objective work in the primary schools. The pupils learned that an indiscriminate gathering of objects was not educative, but that instead there must be an intelligent and careful selection of such things as are most broadly representative, to open wide and useful ways later in the course of learning. Through the children they studied the exact time and condition relation of symbols and things, just when the symbols are to be presented and under what need. They understood the grade place of each of these—why objective work overbalanced in the lower grades and work with symbols in the higher.

Early learning was by them found to be a physical as well as a mental process; that by a correlation of mind and body children develop.

With this thought the material was studied to determine the activities which it would call out on the part of the child for its own mind building. It was studied also to determine the order, the quantity, the preparation of it to meet the child's requirements. This, in brief, was the basis for their philosophy of teaching. Late in the year a few simple educational books were read and discussed to give something of the experiences and thoughts of other workers in this field.

Following was the third division of the professional work—building a course of instruction on the basis of what had already been learned. This was carefully worked out by the pupils, closely criticised by the teachers, and then compared with the one used in our schools. The relations existing from grade to grade and between the subjects and parts of each grade were made the subjects of close study and careful discussion. The pupils were then ready to construct theories concerning the presentation of subjects. These methods were given in the main by means of illustrative lessons followed by an analysis of these to determine purpose, parts, relative value of parts, and the source of information to be used, whether original or symbolical. Suggestive lessons were frequently given by different members of the faculty.

PRACTICE SCHOOLS.

This department was composed of ten schools including the first four grades. These schools were taught by the normal pupils under the general direction of the training teachers and the close supervision of the practice teachers. The work corresponded to that of the same grades of the other city schools. The condition of the pupils of this department at the close of the school year compared favorably with that of the children taught outside the normal school.

The commencement exercises were held as usual in the normal class room at the Franklin building. Addresses were made by Supt. W. B. Powell, Mr. N. P. Gage, supervisor of the second division, and Mr. Jesse H. Wilson, chairman of the Committee on Normal and High Schools. The diplomas were given by Mr. Wilson also.

Allow me, in behalf of the faculty of the normal school, to make grateful acknowledgment to the Trustees, the superintendent, and the supervisors for professional and material aid and encouragement.

Very respectfully,

IDA GILBERT MYERS, *Principal.*

Mr. W. B. POWELL, *Superintendent.*



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BRIEF SCHOOL DIRECTORY.

SUPERINTENDENT.

G. F. T. COOK, Sumner School.

CLERK.

J. W. F. SMITH, Sumner School.

DIRECTORS OF SPECIAL WORK.

Director of primary work.....Emma F. G. Merritt (Miss).....1109 I street nw.
 Assistant director.....N. T. Jackson (Miss).....318 M street sw.
 Director of music.....A. S. Davis (Mrs.).....1320 T street nw.
 Director of drawing.....T. W. Innister.....15th street and Kenesaw avenue nw.
 Director of manual training.....J. H. Hill.....227 Wilson street nw.
 Director of cooking.....M. B. Cook (Miss).....215 Prince street, Alexandria, Va.
 Director of sewing.....C. E. Syphax (Miss).....1447 Pierce place nw.
 Director of physical culture.....Hattie B. George (Miss).....619 B street ne.

NORMAL AND HIGH SCHOOLS.

Name of building.	Location of building.	Name of principal.
Normal School.....	Magruder School, M near 17th street nw.	Miss Lucy E. Moten, 728 4th street nw.
High School.....	M street, between 1st street and New Jersey avenue nw.	Dr. W. S. Montgomery, 1912 11th street nw.

NINTH DIVISION.

Supervising principal, H. P. MONTGOMERY.

Office, Sumner School; residence, 1928 Eleventh street northwest.

Sumner.....	17th and M streets nw.....	Miss M. E. Gibbs, 1741 20th street nw.
Stevens.....	21st street, between K and L street nw.	Mr. J. B. Clark, 1633 11th street nw.
Miner.....	17th street, between P and Q streets nw.	Miss A. M. Mason, 2218 I street nw.
Wormley.....	Prospect street, between 33d and 34th streets nw.	Miss A. T. Howard, 2209 14th street nw.
Briggs.....	22d and E streets nw.....	Mr. F. L. Cardozo, 1333 V street nw.
Garrison.....	12th street, between R and S streets nw.	Miss K. U. Alexander, 1512 Pierce place nw.
Phillips.....	N street, between 27th and 28th streets nw.	Miss G. F. Smith, 1613 Madison street nw.

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TENTH DIVISION.

Supervising principal, Dr. J. H. N. WARING.

Office, John F. Cook School; residence, 1932 Eleventh street northwest.

Name of building.	Location of building.	Name of principal.
John F. Cook	O street, between 4th and 5th streets nw.	Miss Lucinda Cook, 2224 6th street nw.
Garnet	U street, between Vermont avenue and 10th street nw.	Miss Sara C. Lewis, 1120 19th street nw.
Banneker.....	3d street, between K and L streets nw.	Mr. J. W. Cromwell, 1439 Pierce place nw.
Jones.....	1st and L streets nw.....	Miss K. C. Lewis, 1116 18th street nw.
Slater.....	P street, between North Capitol and 1st streets nw.	Miss E. A. Chase, 1109 I street nw.
Logan.....	3d and G streets ne.....	Mr. J. C. Nalle, 1429 Pierce place nw.
Patterson.....	Vermont avenue, near U street nw..	Miss C. A. Patterson, 1532 15th street nw.
Douglass	1st and Pierce streets nw.....	Miss H. A. Hebborn, 1137 24th street nw.

ELEVENTH DIVISION.

Supervising principal, E. W. BROWN.

Office, Lincoln School; residence, 924 Twenty-fourth street northwest.

Lincoln.....	2d and C streets se.....	Miss M. P. Shadd, 2110 14th street nw.
Randall.....	1st and I streets sw.....	Miss M. E. Tucker, 413 B street se.
Giddings	G street, between 3d and 4th streets se.	Miss L. A. Smith, 903 U street nw.
Anthony Bowen...	9th and E streets sw.....	Miss J. C. Grant, 1448 Pierce place nw.
Bell.....	1st street, between B and C streets sw.	Miss L. A. Dyson, 101 7th street se.
Ambush	L street, between 6th and 7th streets sw.	Miss A. S. Bailey, 421 8th street sw.
Payne.....	15th and C streets se.....	Mr. M. Grant Lucas, Anacostia, D. C.
Lovejoy	12th and D streets ne.....	Miss R. J. Baldwin, 1234 4th street nw.

SUPERINTENDENT COOK'S REPORT.

WASHINGTON, D. C., *November 9, 1897.*

GENTLEMEN: Herewith is presented the report of the schools of the ninth, tenth, and eleventh divisions of the public schools of the District of Columbia, embracing all the public colored schools of the city, for the school year ending June 30, 1897. Submitted with this report are the reports of the supervising principals, of the principals of the high and normal schools, of the directors of drawing, manual training, cooking, sewing, and physical culture. Statistics showing the classification of pupils embraced in the enrollment, the number of teachers employed and their classification, the cost of tuition, the cost of supervision, and other information are also presented in detail in tabulated statements.

The whole number of pupils enrolled was 12,854. They were enrolled as follows:

	Boys.	Girls.	Total.
Normal school.....	8	22	30
High school.....	215	521	736
Total.....	223	543	766
Grammar schools:			
Eighth grade.....	226	284	510
Seventh grade.....	326	411	737
Sixth grade.....	393	495	888
Fifth grade.....	541	681	1,222
Total.....	1,486	1,871	3,357
Primary schools:			
Fourth grade.....	734	924	1,658
Third grade.....	864	1,090	1,954
Second grade.....	1,021	1,287	2,308
First grade.....	1,244	1,567	2,811
Total.....	3,863	4,868	8,731
Grand total.....	5,572	7,282	12,854

The entire number of schools in these divisions was 244. They were classified as follows:

	Division.			Normal and high schools.	Total.
	Ninth.	Tenth.	Eleventh.		
Normal school				1	1
High school				1	1
Total				2	2
Grammar schools:					
Eighth grade	4	4	3		11
Seventh grade	7	6	4		17
Sixth grade	9	6	4		19
Fifth grade	9	8	6		23
Total	29	24	17		70
Primary schools:					
Fourth grade	11	12	9		32
Third grade	<i>a</i> 13	12	12		37
Second grade	<i>a</i> 15	17	12		44
First grade	<i>a</i> 17	22	20		59
Total	56	63	53		172
Grand total	85	87	70	2	244

a Two under instruction of assistant teachers in the normal school.

The whole number of teachers employed was 308, of whom 262 were female and 46 male. They were employed in grades as follows:

Supervising principals	3
Normal School	5
High School	26
Grammar schools:	
Eighth grade	11
Seventh grade	17
Sixth grade	19
Fifth grade	23
Primary schools:	
Fourth grade	32
Third grade	35
Second grade	42
First grade	57
Teachers of music	4
Teachers of drawing	6
Teachers of carpentry	6
Teachers of metal working	2
Teachers of cookery	5
Teachers of sewing	8
Teachers of physical culture	4
Assistants to supervising principals	3
Total	308
Teachers graduates of the Washington High and Normal schools	187
Teachers graduates of the Washington Normal School only	15
Teachers graduates of other normal schools	19
Teachers graduates of high schools only	26

Teachers graduates of colleges	26
Teachers graduates of colleges and normal schools.....	3
Teachers not graduates of any of the above courses.....	39
Total	315
Teachers counted in more than one course	7
Total	308

The day schools cost—

For teachers and supervisors, including office force	\$203, 837. 68
For janitors	15, 293. 35
For rent	2, 936. 00
For fuel	9, 555. 34
For incidental expenses, including insurance, general supplies, printing, flags, etc	7, 515. 22
For free text-books and supplies	8, 320. 94
For industrial instruction, including manual training, cooking, and sewing	2, 192. 00
For furniture	1, 369. 83
For buildings and repairs to buildings	36, 569. 61
Total	287, 619. 97

The cost of schools for supervision and teaching:

Superintendent	\$2, 250. 00
Clerk	800. 00
Messenger	200. 00
Supervising principals, 2 at \$2,000 each.....	4, 000. 00
Supervising principal, 1 at \$1,800.....	1, 800. 00
Assistants to supervisors	1, 650. 00
Total	10, 700. 00
Cost per pupil (estimated on the average enrollment, 10,420).....	1. 02

Tuition.

Normal School:

Principal	\$1, 500. 00
Two teachers	1, 600. 00
One teacher	700. 00
One teacher.....	650. 00

Total	14, 450. 00
Cost per pupil (estimated on the average enrollment, 30).....	46. 55

High School:

Principal.....	2, 000. 00
Twenty-five teachers.....	21, 072. 50

Total	23, 072. 50
Cost per pupil (estimated on the average enrollment, 640).....	36. 05

Grammar schools (11 eighth, 17 seventh, 19 sixth, 23 fifth grade schools).....	\$56, 772. 50
Cost per pupil (estimated on the average enrollment, 2,711).....	\$20. 94
Primary schools (23 fourth, 37 third, 44 second, 59 first grade schools).. ²	\$85, 703. 33
Cost per pupil (estimated on the average enrollment, 7,040).....	\$12. 57

¹ Including the cost of teaching 6 practice schools, \$3,100.

² To be increased by the cost of teaching 6 practice schools, \$3,100.

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Special teachers (4 music teachers, 6 drawing teachers, 4 physical-culture teachers)	\$9,579.35
Cost per pupil (estimated on the average enrollment, 10,420)	\$0.91
Teachers of manual training (carpentry, 6; metal working, 2; cookery, 5; sewing, 8)	\$13,560.00
Cost per pupil (estimated on the average enrollment, 10,420)	\$1.30
Average cost per pupil for tuition in all the schools (based on the average enrollment, 10,420)	\$18.53
Summary:	

Total cost of instruction, including supervision	\$203,837.68
Whole number of pupils enrolled	12,854
Average number of pupils enrolled	10,420
Average daily attendance	9,903
Average cost of instruction, including supervision, estimated on—	
1. Whole enrollment	\$15.85
2. Average enrollment	\$19.56
3. Average daily attendance	\$20.58

Janitors

Total amount expended	15,293.35
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Contingent expenses.

Total amount expended	7,319.22
Average amount per pupil (estimated on average enrollment)70

Free text-books.

Total amount expended	8,320.94
Average amount per pupil (estimated on average enrollment)85

Industrial instruction.

Total amount expended	2,192.00
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Fuel.

Total amount expended	9,555.34
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Rent.

Total amount expended	2,936.00
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Furniture.

Total amount expended	1,399.83
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Flags.

Total amount expended	196.00
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SUMMARY.

Amount expended, grand total	251,050.36
Average cost per pupil (including high and normal schools) for all expenses except repairs and permanent improvements:	
1. On whole enrollment	19.53
2. On average enrollment	24.09
3. On average daily attendance	25.35

The following embrace, among other statistics, the average salary per teacher for the Normal School, High School, grammar and primary schools, and special instruction; the number and cost of free text-books and supplies, etc.:

Normal School.

Number of teachers trained.....	30
Average attendance.....	29
Number of teachers employed.....	5
Average salary	\$890

High School.

Number of pupils enrolled	736
Average enrollment	640
Average attendance.....	614
Per cent of attendance.....	95.9
Average number of tardinesses per month.....	51.1
Number of pupils dismissed.....	1
Number of teachers employed.....	26
Average salary paid.....	\$887.40
Cost of tuition per pupil (estimated on the average enrollment).....	\$36.05

Grammar and primary schools.

Number of pupils enrolled	12,088
Average enrollment.....	9,751
Average attendance.....	9,260
Per cent of attendance.....	94
Average number of tardinesses per month.....	417.4
Number of pupils dismissed.....	0
Number of cases of corporal punishment.....	38
Number of teachers employed.....	236
Average salary paid.....	\$603.71
Average number of pupils to the teacher (estimated on the average enrollment)	41.3
Cost of tuition per pupil (estimated on the average enrollment).....	\$14.61

Special teachers.

Drawing	6
Music	4
Teachers of physical culture	4
Average salary paid:	
Drawing	\$650.00
Music	\$772.50
Teachers of physical culture	\$647.33
Average cost per pupil for special tuition (estimated on the average enrollment)	\$0.91

Teachers of industrial instruction.

Manual training (carpentry and metal work)	8
Cooking	5
Sewing.....	8
Average salary paid:	
Manual training	\$762.50
Cooking	\$620.00
Sewing	\$545.00
Average cost per pupil for industrial instruction (estimated on the average enrollment).....	\$1.30

Free text-books and supplies.

	Quantity.	Cost.		Quantity.	Cost.
BOOKS.			BOOKS—continued.		
<i>Æsop's Fables</i>	13	\$2.99	Readers:		
<i>Africa, Part I</i>	62	24.28	Primer and First Frank-		
<i>Africa, Part II</i>	62	24.28	lin.....	98	\$17.88
<i>Algebras, Wentworth</i>	54	4.81	Second Franklin.....	263	71.89
Arithmetics:			Third Franklin.....	231	87.40
Intellectual.....	71	13.84	Fourth Franklin.....	90	41.10
Cook and Cropsey.....	48	28.80	Intermediate Franklin.....	57	26.03
Elements of, Milne.....	202	47.50	Fifth Franklin.....	90	5.77
Standard, Milne.....	178	90.48	Primer Normal.....	521	74.68
Arithmetic readers:			First Normal.....	501	96.28
Second grade.....	44	7.15	Second Normal.....	477	139.12
Third grade.....	53	10.82	Third Normal.....	231	90.86
Civil government:			Fourth Normal.....	293	142.84
Fiske.....	30	22.50	Fifth Normal.....	167	114.12
Thorpe.....	4	3.03	Snow Bound.....	60	6.50
Child's Health Primers.....	28	6.53	Story of Two Inaugura-		
Dictionaries.....	589	55.95	tions.....	1,341	108.42
Essentials of Health (Stow-			Washington Day by Day..	6	9.00
ell).....	52	36.88	Word and Sentence Book..	251	50.20
<i>Evangeline</i>	117	12.52	Total.....		2,899.60
Geographies:			SUPPLIES.		
Introductory.....	156	66.95	Bean bags.....	2,124	129.48
Grammar School.....	165	160.87	Blackboard rubbers.....	744	21.70
Complete, Fry.....	205	210.12	Blackboard pointers.....	58	7.87
Primary, Fry.....	186	91.14	Blank forms.....	1,000	3.45
Geologies (Shaler).....	45	36.75	Block tablets.....	1,500	45.00
Government and Adminis-			Brushes, extra.....	1,150	23.00
tration, United States....	48	28.80	Cans, for clay.....	25	60.00
Grammars, Kerl.....	511	285.38	Cardboard, sheets.....	3,760	47.00
Hans Andersen Stories.....	25	6.92	Chalk, gross.....	900	42.75
Histories:			Compasses.....	156	18.72
Barnes.....	28	21.81	Copy books:		
Eggleston.....	4	3.27	No. 4.....	258	16.39
Fiske.....	64	49.33	No. 5.....	1,692	107.51
Johnston.....	35	29.40	No. 6.....	1,104	70.15
Montgomery.....	3	2.40	No. 7.....	952	60.49
Ridpath.....	7	4.36	Drawing tablets:		
Shaler, sets.....	12	90.00	Large.....	3,584	81.89
Hygiene for Young People..	28	10.87	Small.....	10,507	154.98
Legend of Sleepy Hollow..	181	4.52	Dumb-bells.....	40	6.70
Miles Standish.....	117	12.67	Envelopes.....	1,000	2.00
Modern Europe.....	124	60.97	Glue.....cans..	84	22.61
Music readers:			Ink.....quarts..	762	114.30
Second, Mason.....	53	17.04	Measures:		
Third, Mason.....	50	16.08	Dry.....sets..	4	3.80
Normal First.....	1,079	27.87	Liquid.....do..	4	3.80
Normal Second, Part I.....	51	14.87	Models, first grade, boxes..	162	20.25
Normal Second, Part II.....	17	4.96	Mucilage.....quarts..	60	28.20
Normal Third.....	14	6.82	Paint.....cakes..	1,396	13.96
Old Greek Stories.....	128	4.59	Paper:		
Our American Neighbors..	148	72.77	Color—		
Our Continent (Shaler)....	8	4.83	Extra.....packs..	103	20.60
Our Own Continent.....	191	78.79	Do.....do....	70	10.85

Free text-books and supplies—Continued.

	Quantity.	Cost.		Quantity.	Cost.
SUPPLIES—continued.			SUPPLIES—continued.		
Paper—Continued.			Squares.....	64	\$3.41
Composition—			Tools, modeling.....	750	40.62
No. 1.....packs..	5,570	\$403.82	Twine.....balls..	6	.33
No. 2.....do.....	6,150	445.87	Wands.....	25	1.30
No. 3.....do.....	6,290	456.02	Total.....		5,085.87
Drawing.....reams..	267 $\frac{3}{4}$	133.54	ADDITIONAL EXPENSES.		
Examination.....do....	909	890.82	Hauling.....		73.31
Modeling.....sheets..	2,540	47.62	Proportionate part of sal-		
Practice.....packs..	12,950	748.80	ary paid to custodian.....		240.60
Prang's.....boxes..	990	136.95	Printing.....		13.06
Spectrum A.....packs..	139	16.68	Nail puller.....	1	1.50
Spectrum B.....do....	54	11.88	Blank books.....	3	7.00
Wrapping.....reams..	3	7.20	Total.....		335.47
Pencils, W. P. S.....gross..	430	365.50	Grand total.....		8,320.94
Penholders.....do....	35 $\frac{1}{2}$	24.49			
Pens.....do.....	675	202.50			
Rubbers, diamond.....	1,203	11.07			

The number of pupils enrolled in the eight grades that were supplied with free text-books was 12,088, making the cost per pupil for all free text-books and supplies \$.688, and the cost for books alone per pupil \$.0223.

TABLE I.—Presenting in concise view the more essential statistics of the night schools for every year since appropriation was first made for this instruction, and permitting easy reference as to their growth and ready inference not only as to the work they are accomplishing but what, if in sufficient number, they could be made to accomplish:

Year.	Whole enrollment.	Average enrollment.	Average attendance.	Per cent of attendance.	Time.		Number of school buildings used for night schools.	Number of teachers.	Entire cost of teaching.
					Number of nights.	Number of hours.			
1885-86.....			232		37	74	1	8	(a)
1886-87.....		467	378	80.9	52	104	3	12	\$1,248.00
1887-88.....	1,053	738	650	88	51	102	5	20	2,295.00
1888-89.....	1,080	703	619	88	57 $\frac{1}{2}$	115	5	20	2,300.00
1889-90.....	1,158	744	644	86.5	55	110	5	20	2,200.00
1890-91.....	1,395	846	700	82.7	56	112	6	24	2,699.98
1891-92.....	1,353	855	731	85.4	48	96	6	24	2,320.00
1892-93.....	1,315	896	779	86.8	47	94	6	27	2,501.50
1893-94.....	1,365	921	792	85.9	47	94	6	27	2,520.50
1894-95.....	1,342	840	723	86	47	94	6	27	2,498.00
1895-96.....	1,508	973	851	87.4	48	96	7	27	2,500.00
1896-97.....	1,420	946	801	84.4	45	90	6	26	2,299.00

a Expense borne partly by the District of Columbia and partly by a voluntary association of ladies who were active in their efforts to have the night schools established.

TABLE II.—*Showing the average number of pupils to the school of grades below the High School, based on the whole and the average enrollment.*

Grade.	Schools.	Whole enrollment.	Average to the school. ¹	Average enrollment.	Average to the school. ²
Eighth.....	11	510	46.3	411	37.3
Seventh.....	17	737	43.3	595	35
Sixth.....	19	853	46.7	719	37.8
Fifth.....	23	1,222	53.3	986	42.8
Fourth.....	32	1,658	51.5	1,238	43
Third.....	37	1,954	52.8	1,576	42.5
Second.....	44	2,308	52.4	1,859	42.2
First.....	59	2,811	47.6	2,267	38.4
Total.....	242	12,088	49.9	9,751	40.2

¹ Based on the whole enrollment.² Based on the average enrollment.TABLE III.—*Showing the whole number enrolled in each grade, and per cent of enrollment for the school years 1895-96 and 1896-97, with increase and decrease.*

Grade.	1896-97.		1895-96.		Increase.	Decrease.
	Whole enrollment.	Per cent.	Whole enrollment.	Per cent.		
Normal School.....	30	0.23	30	0.23		
High School.....	736	5.73	675	5.24	61	
Eighth.....	510	3.97	539	4.19		29
Seventh.....	737	5.73	741	5.75		4
Sixth.....	888	6.91	1,000	7.77		112
Fifth.....	1,222	9.51	1,169	9.08	53	
Fourth.....	1,658	12.90	1,611	12.51	47	
Third.....	1,954	15.20	1,921	14.92	33	
Second.....	2,308	17.95	2,329	18.09		21
First.....	2,811	21.87	2,861	22.22		50
Total.....	12,854	100	12,876	100	194	216
SUMMARY.						
Normal and High schools.....	766	5.96	705	5.47	61	
Grammar schools.....	3,357	26.12	3,449	26.79	53	145
Primary schools.....	8,731	67.92	8,722	67.74	80	71
Total.....	12,854	100	12,876	100	194	216

TABLE IV.—*Showing the number of schools of each grade below the High School.*

Division.	Grade.								Total.
	First.	Second.	Third.	Fourth.	Fifth.	Sixth.	Seventh.	Eighth.	
Ninth.....	17	15	13	11	9	9	7	4	85
Tenth.....	22	17	12	12	8	6	6	4	87
Eleventh.....	20	12	12	9	6	4	4	3	70
Total.....	59	44	37	32	23	19	17	11	242

TABLE V.—*Showing the absolute and relative growth of the High School.*

Year.	Number enrolled in all grades, excluding Normal School.	Number enrolled in the High School.	Per cent of enrollment in all grades, excluding Normal School.	Teachers in all grades, excluding Normal School teachers.	Teachers in High School.	Per cent of teachers in High School on number of teachers in all grades, excluding those in Normal School.	Number of graduates from High School.
1885-86	10,138	247	2.4	174	6	3.4	33
1886-87	10,345	276	2.7	182	8	4.4	39
1887-88	11,000	361	3.3	188	9	4.8	51
1888-89	11,130	416	3.7	197	11	5.5	67
1889-90	11,398	345	3	211	12	5.6	41
1890-91	12,106	376	3.1	226	14	6.1	86
1891-92	12,253	407	3.3	240	17	7	69
1892-93	12,303	444	3.6	254	18	7	90
1893-94	12,207	460	3.7	268	19	7	99
1894-95	12,453	618	4.9	281	22	7.8	131
1895-96	12,846	675	5.2	292	24	8.2	49
1896-97	12,824	736	5.7	303	26	8.5	79

TABLE VI.—*Showing the number of schools of each grade, two of which occupy one room.*

Division.	Grade.					Total.
	First.	Second.	Third.	Fourth.	Fifth.	
Ninth	13	12	1	.....	.....	26
Tenth	19	12	1	2	.....	34
Eleventh	15	9	8	5	1	38
Total	47	33	10	7	1	98

TABLE VII.—*Showing the number of school buildings and schoolrooms occupied (owned and rented).*

Year.	Buildings.			Rooms.			Year.	Buildings.			Rooms.		
	Owned.	Rented.	Total.	Owned.	Rented.	Total.		Owned.	Rented.	Total.	Owned.	Rented.	Total.
1885-86.....	12	4	¹ 16	114	17	131	1891-92.....	21	3	24	186	21	207
1886-87.....	11	4	15	112	17	129	1892-93.....	21	2	23	198	10	208
1887-88.....	13	9	22	129	28	157	1893-94.....	22	2	24	206	10	216
1888-89.....	13	8	21	129	27	156	1894-95.....	22	2	24	206	10	216
1889-90.....	18	4	22	156	21	177	1895-96.....	22	3	25	212	22	234
1890-91.....	18	4	² 23	166	22	190	1896-97.....	³ 24	3	27	⁴ 224	⁵ 17	241

¹Building owned by first 6 divisions given up at end of the school year.²Including 1 two-room building (free of rent to the District of Columbia) given up at the end of the school year.³Chamberlain building not counted.⁴One used for Normal, 19 for High, 2 for supervising principals' offices, 6 for industrial schools, 1 for retiring room, 8 rooms at Bowen abandoned during reconstruction, and 1 at Lovejoy not used.⁵Eleven rooms for industrial schools.

Number of grammar and primary schools, 242.

TABLE VIII.—*Showing growth of the schools during the last thirty years.*

Year.	Number of schools.	Number of teachers.	Number of pupils.	Year.	Number of schools.	Number of teachers.	Number of pupils.
1867-68.....	41	41	2,300	1882-83.....	135	147	8,735
1868-69.....	52	52	3,000	1883-84.....	140	154	9,181
1869-70.....	66	63	3,650	1884-85.....	149	162	9,614
1870-71.....	68	66	4,986	1885-86.....	161	174	10,158
1871-72.....	75	78	4,661	1886-87.....	168	182	10,365
1872-73.....	76	86	5,188	1887-88.....	176	191	11,040
1873-74.....	74	87	5,280	1888-89.....	186	202	11,170
1874-75.....	75	89	5,489	1889-90.....	197	216	11,438
1875-76.....	76	90	5,454	1890-91.....	214	230	12,132
1876-77.....	79	92	5,954	1891-92.....	224	244	12,280
1877-78.....	96	109	6,515	1892-93.....	229	258	12,329
1878-79.....	108	119	7,731	1893-94.....	236	272	12,233
1879-80.....	117	130	8,080	1894-95.....	246	286	12,479
1880-81.....	121	134	8,164	1895-96.....	253	297	12,876
1881-82.....	130	143	8,303	1896-97.....	255	308	12,854

TABLE IX.—*Showing whole enrollment of pupils in each grade, by sexes, for the school year ending June 30, 1897.*

Grade.	Whole enrollment.			
	Boys.	Girls.	Total.	Per cent.
Normal school.....	8	22	30	0.23
High school.....	215	521	736	5.24
Eighth.....	226	284	510	4.19
Seventh.....	326	411	737	5.75
Sixth.....	393	495	888	7.77
Fifth.....	541	681	1,222	9.08
Fourth.....	734	924	1,658	12.51
Third.....	864	1,090	1,954	14.92
Second.....	1,021	1,287	2,308	18.09
First.....	1,244	1,567	2,811	22.22
Total.....	5,572	7,282	12,854	100
SUMMARY.				
Normal and high schools.....	223	543	766	5.47
Grammar schools.....	1,486	1,871	3,357	26.79
Primary schools.....	3,863	4,868	8,731	67.74
Total.....	5,572	7,282	12,854	100

The following is a list of the owned and rented school buildings, giving the year of erection and names of those after whom named:

Schools.	Erected.	For whom named.
OWNED.		
Ambush	1889.....	Enoch Ambush.
Anthony Bowen	1867.....	Anthony Bowen.
Banneker	1882.....	Benjamin Banneker.
Bell	1889.....	George Bell.
Briggs	1889.....	Martha B. Briggs.
Cook	1868.....	John F. Cook, sr.
Douglass	1896.....	Frederick Douglass.
Garnet	1880.....	Henry Highland Garnet.
Garrison	1889.....	William Lloyd Garrison.
Giddings	1887.....	Joshua R. Giddings.
High School	1890.....	
Jones	1889.....	Alfred Jones.
Lincoln	1871.....	Abraham Lincoln.
Logan	1891.....	John A. Logan.
Lovejoy	1872.....	Elijah P. Lovejoy.
Magruder	1887.....	J. B. Magruder.
Patterson	1893.....	James W. Patterson.
Payne	1896.....	Daniel A. Payne.
Phillips	1890.....	Wendell Phillips.
Randall	1876.....	Eliza G. Randall.
Slater	1890.....	John F. Slater.
Stevens	1868.....	Thaddeus Stevens.
Sumner	1871.....	Charles Sumner.
Wormley	1884.....	James Wormley.
RENTED.		
Miller	1866.....	
Miner	1877.....	Myrtilla Miner.
917 P street N. W.	1876.....	Location.

NOTE.—Chamberlain Building abandoned as unfit for use. See footnote ², Table VII.

ATTENDANCE AND SCHOOL POPULATION.

The whole number of pupils enrolled was 12,854. The average number of pupils enrolled was 10,420. The average number of pupils in daily attendance was 9,903. The entire enrollment was 22 less than in the previous school year. The decrease was in the ninth division. It was caused by the locating of the Stevens schools, during the period of the reconstruction of the building, in other buildings more or less remote, which, in the hardship and inconvenience imposed by the distance upon many of the pupils, and particularly upon those in the lower grades, prevented enrollment in the schools.

The average enrollment was 130 more, and the average number in attendance 136 more than in the previous school year. These increases show a better degree of permanent attendance, and in it opportunity for larger availment of the benefits offered by the schools. The need of improved degree in the permanence of attendance may be easily

seen in the fluctuations in attendance from month to month during the school year. These fluctuations vary, and show in the difference between the month showing on its last day the greatest enrollment and that showing the least a very considerable number of pupils whose attendance at school was limited to portions of the school year, ranging from that of a few days to that of almost the entire term. Any loss of school time affects, more or less, the scholarship of the pupils; and when the loss is considerable, as in very many of these instances, so seriously as to prevent the annual advance or promotion to the next grade. The continued business depression, through the less opportunity afforded for steady employment, contributed much to these fluctuations. The following table, in which the number of pupils on the rolls the last day of each month of the school year is shown, gives for each division a detailed view of the monthly fluctuations in attendance:

Pupils on the rolls the last day of each month.

[Normal School not included in this table.]

Month.	Total 1895-96.	High school.	Division.			Total 1896-97.
			Ninth.	Tenth.	Eleventh.	
September.....	10,841	710	3,468	3,678	2,859	10,715
October.....	11,132	696	3,566	3,782	2,991	11,035
November.....	11,028	690	3,590	3,692	3,077	11,049
December.....	10,728	669	3,420	3,478	2,975	10,542
January.....	10,423	628	3,316	3,438	2,834	10,216
February.....	10,048	633	3,344	3,454	2,810	10,241
March.....	9,883	608	3,323	3,384	2,811	10,126
April.....	9,624	583	3,234	3,315	2,759	9,891
May.....	9,252	566	3,126	3,177	2,681	9,550
June.....	9,160	561	3,045	3,137	2,662	9,405

Where adverse circumstances in life are so prevalent as among this population, it is easy to infer that very much of this loss of school time is due to circumstances beyond control; yet there is not wanting ground for the inference that to a limited extent it is also due to indifference and to want of proper appreciation of the privileges offered by public school provision, born of present environment and entailed by past condition.

In a more frequent and flexible classification than that which maintains in the present yearly grading of our schools it is probable that very many of this class could be induced to avail more largely of the instruction of the schools, through the opportunity afforded for continuous or connected pursuit of study on their return to school, by which much of the discouragement which now inclines to withdrawal would be removed.

In my opinion this could be largely effected by the organization or creation for these pupils of varying attainments special schools, to which on their return any of this class could be sent and in which the number of pupils to the teacher could be kept sufficiently small to

reduce, through the larger opportunity offered for individual instruction, the repetition of what was formerly gained to the minimum; and when the deficiencies have been removed or wants supplied they could be transferred to the graded schools. It is not believed that there would be demand for many such schools, as the assignments to the special schools would probably have good degree of balance in the transfers to the graded schools when pupils have been advanced to their requirements.

The following table shows the whole number enrolled, the average number enrolled, the average number in daily attendance, each with the percentage of increase from year to year, and the percentage of attendance, based on the average enrollment, during the last twelve years:

[Normal School not included in this table.]

Year.	Whole number enrolled.	Percentage of increase.	Average number enrolled.	Percentage of increase.	Average daily attendance.	Percentage of increase.	Percentage of attendance.
1885-86	10,138	5.62	8,191	6.52	7,756	6.43	94.6
1886-87	10,345	2.04	8,448	3.13	7,956	2.57	94.2
1887-88	11,000	6.33	8,754	3.62	8,266	3.89	94.4
1888-89	11,130	1.18	9,049	3.36	8,549	3.42	94.5
1889-90	11,398	2.40	9,250	2.22	8,728	2.09	94.3
1890-91	12,106	6.21	9,679	4.63	9,140	4.72	94.4
1891-92	12,253	1.21	9,915	2.44	9,363	2.43	94.4
1892-93	12,303	.40	10,072	1.55	9,535	1.80	94.6
1893-94	12,207	.....	10,116	.43	9,627	.95	95.1
1894-95	12,453	1.97	10,021	.....	9,457	.....	94.3
1895-96	12,846	3.05	10,266	2.38	9,738	2.88	94.8
1896-97	12,824	.....	10,391	1.20	9,874	1.37	95

The percentage of attendance, based on the average enrollment, was 95. It was greater than that of the previous school year, in which it was excellent; and it has been excelled in only one year of the twelve years embraced by the table, and that only by one-tenth of 1 per cent. In the schools it varied from 89 to 98.3. The number of schools having a percentage of attendance above the average was 125. Such high degree of regularity in attendance suggests large possibility and opportunity for the accomplishment of effective school work.

The average number of pupils enrolled was slightly more than four-fifths of the entire enrollment, it being 81 per cent. It indicated a slight degree of increase over the previous year in permanence of attendance.

The cases of tardiness for the year were 5,327, or 51 to every 100 pupils of the average enrollment. Though slightly less favorable in its comparison with that of the previous year, it is in maintenance of the excellent record that has been made from year to year through a long series of years. In the character of the training it affords it can not have otherwise than excellent effect upon the future life of the thousands who go forth from these schools.

It appears from the report made of the recent police census that the increase in the population of the District of Columbia, since the taking of the police census in 1894, was very slight. Be this as it may, there is no doubt that there were thousands of colored children of legal school ages who were not enrolled in the schools during the last school year.

Since very few of this school population receive instruction in private and parochial schools, the large majority of those not enrolled in the public schools received during the year no school instruction of any character. Those who attend neither public nor private schools are without doubt being educated, but not in the way nor with the aim contemplated by the provision of the public school. It should not be difficult to comprehend the character of the education to be found in the substitute of the street and alley with their evil associations and influences, nor its effect upon future life. The tendency of the training of the public school is to intelligent, honest, useful, and virtuous citizenship; that of the street and alley to ignorant, idle, vicious, and criminal conditions in life. In the long run the training offered by the former is more economical, and it is always safe; while that of the latter is extravagant and dangerous. Those of the school population who will not voluntarily come within the embrace of public or private provision should be forced to accept it. Such compulsion is favored by their ultimate good, and justified by the protection due to society.

KINDERGARTENS.

Under the auspices of the Woman's League of this city, an organization of colored ladies for the promotion and furtherance of the interests of the colored population, several kindergartens were organized during the year. Entertainments, through which to raise means to aid in their outfit, were given by pupils of the public schools. These kindergartens were put in charge of young women who had received some special training for the work to be done. While it is not reasonable to believe that such work can, in the absence of liberal provision, both in degree of intellectual and professional attainment as well as in degree of financial means adequate to its due execution, be most efficient in character, yet the spirit that induces it is so worthy and commendable, as well as indicative of appreciation of needs, as to entitle it to public recognition through an annual appropriation for the efficient organization and maintenance of kindergartens in number sufficient to embrace this class of children.

Several efforts have, from time to time in the past, been made to inaugurate free kindergartens in this city for colored children, though after a short existence to die, from the want of financial means with which to continue them. It is to be hoped, however, that this effort will continue sufficiently long to so impress the public provisional power with the great need of this training as to result in action through which it will be permanently secured.

The need of schools of this character is apparent in the fact that there are thousands of children in this city under the legal school ages and sufficiently removed from that more helpless period of infancy in which the almost constant care of the mother is absolutely needed, whose systematic training can be assured only through provision of this character. They are to be found not only in the household of adversity, where in the constant struggle of the parent for the bare necessities in the maintenance of physical life the child is necessarily largely deprived of that training essential to happy and useful life, but also in that of the opulent and well-to-do in which, through other engagement or occupation, the proper training of the child is often neglected.

Among this population, in which adversity of circumstances in life is so large and notable, there is in the home necessarily such dearth of that attention which trains to healthy, moral, and intellectual manhood and womanhood as to make other provision absolutely necessary for the insurance of virtuous and intelligent citizenship. In many of the homes the correct training of the child is not due to indifference or want of time, but to inability—through ignorance, to discharge efficiently such office of the parent—inability consequent upon the entailments of a past condition.

The children for which this training is advocated are in the formative period in which bent is largely given to after life. This bent is more or less determined by the child's environment, physical, moral, and intellectual. It is true that the training in these tender years, in the degree of individual attention required, is more expensive than that of the present legal school years, but in its tendency to divert from the avenues that lead to idleness and vice the balance is in its favor when considered with the means subsequently required for the suppression of crime. Due educational provision for this large class of children should not, rightly and judiciously considered, be a mere question of financial means but, in its relation to good government, also one of polity; for in the molding of character as character forms, this training is of inestimable value, not more to the one trained than to the welfare of the community of which he is a unit.

If this class should be embraced by our public school system, and placed under the care and direction of teachers well qualified for and peculiarly adapted to effecting the development sought, the work of subsequent school life in all its aspects would be greatly heightened, and fuller and rounder, morally and intellectually, than is possible under present conditions.

ACCOMMODATION.

In the reconstruction of the Stevens and the Anthony Bowen schools very much has been done to improve the character of the accommodation for the schools of these divisions. There now remain three other buildings of those of earliest construction in which changes are absolutely needed for the proper sanitary conditions. These buildings are

the Sumner, Lincoln, and the Lovejoy, all constructed more than a quarter century ago, when the school system itself was in its infancy and when less progress had been made in school architecture and construction in adaptability to those means through which conditions essential to health and comfort are most largely insured.

The defects in the first two named consist largely of improperly laid basement floors, want of proper ventilation, rough floors from use and age, and want of general renovation by painting and otherwise. From the damp and constantly decaying wood in the basement floors laid upon the bare earth are constantly emitted odors, which, mingled with those from the imperfect ventilation of the schoolrooms and the building, can not be otherwise than injurious to the health of both teachers and pupils. In my opinion a proper test as to the degree of purity of the air in these buildings during their occupancy by the schools would reveal a condition sufficiently serious to insure prompt remedial means.

An appropriation of \$5,725.24 was secured during the extra session of Congress for additions and changes to the Lovejoy School with view to remedying existing ill conditions. There is reason to believe that the present structure is not such as to justify the expenditure of this amount upon it, since it would not afford greater accommodation. From an economical point of view it would be much better to replace the present objectionable building by an eight-room building of modern type. Due provision for the enrollment of the school population in its vicinity even now requires not only better but ampler accommodation than the present building affords. This need is annually increasing, from the fact that the lower rent in this section of the city, when compared with that in most other sections, attracts and will continue to attract large numbers of this population. The school site is an excellent one and sufficient for an eight-room building. Such a structure would not require more than \$30,000, inclusive of the appropriation already made.

With the exceptions above named the school buildings in these divisions afford good accommodation, and barring minor repairs and the need of renovation by calcimining and painting are in good condition.

The accommodation embraces, excluding the high school, 23 buildings, which afford 193 schoolrooms. With few exceptions these schoolrooms are capacious, well-heated, well-lighted, and well-ventilated. The exceptions are the three schoolrooms on the third floor of the Lincoln building, two on the basement floor of the Randall, and one on the basement floor of the John F. Cook. The first named are unfit on account of the limited space permitted by the Mansard conformation of the roof and the ill and poor light conditions resulting from the deep-set windows made necessary by the character of the roof; the second are heated by stoves and have no means of ventilation save by the windows; and the last is not only improperly heated by stoves, without ventilation save through the windows, but on its long side is deprived of a proper degree of light by the presence of a brick wall to the height of the room and but 4 feet distant.

While the quality of the accommodation in these divisions is such in the main as to reflect credit upon the District of Columbia, its quantity is still insufficient not only to serve the entire school population, but to provide properly for a large portion of it now enrolled in the schools. This want enforces in all sections of the city the use in many instances of one room by two schools.

There was no increase in accommodation last year, except in the rental of six rooms in the Miner school building, to prevent half time to schools as high as the fifth grade.

A new building was asked for the ninth division, but it was not allowed. In consequence of it schools of third grade were limited to half-day occupancy of the schoolroom. The new building is needed to relieve the pressure upon the Briggs school, corner of Twenty-second and E streets NW., and for the enrollment of other children of the school population in that vicinity. The Briggs, an eight-room building, had in it during the year 12 schools, one of which was transferred to the Stevens school to prevent half-day sessions to a fourth-grade school, those of the third grade having been reduced to half time from want of proper accommodation. I renew the recommendation for a new eight-room building and site for the ninth division.

It is felt that there is at present no need of the schools more urgent than that of accommodation. It is true that for years the degree of this need has been determined by the number of schools of grade higher than the second, which for its want have been restricted to half-day sessions. Determination of need of accommodation upon such basis implies that schools of second and first grades require for proper completion of school work only half the time prescribed for schools of higher grades. Not only experience but due reflection, however, will convince that the completest mastery of the prescribed work, through the largest degree of self-activity of the child, requires not only more time, but such judicious arrangement of it in school sessions and school periods for recess or recreation, as, in the alternating of recess with school time, will tend to result in the nearest approach to the demands of child nature. Two short sessions, aggregating more than the now almost continuous session, with an hour at least between for physical recreation, will, I have no doubt, permit more satisfactory mastery of the prescribed work and more nearly fulfill the conditions essential to due maintenance of physical health. If our first and second grade schools be placed upon such basis, the number of schoolrooms to maintain it must equal the number of schools.

For other than sanitary reasons the walls and ceilings of the schoolrooms should receive such annual attention as cleanliness and taste require. For many years there has been persistent effort in these schools to make the schoolroom attractive by hanging upon its walls pictures and other designs, by bordering the blackboards with beautiful crayon designs, and by such general decorations and means as, in many instances, not only enforce and illustrate the regular work of the

the Sumner, Lincoln, and the Lovejoy, all constructed more than a quarter century ago, when the school system itself was in its infancy and when less progress had been made in school architecture and construction in adaptability to those means through which conditions essential to health and comfort are most largely insured.

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It is felt that there is at present no need of the schools more urgent than that of accommodation. It is true that for years the degree of this need has been determined by the number of schools of grade higher than the second, which for its want have been restricted to half-day sessions. Determination of need of accommodation upon such basis implies that schools of second and first grades require for proper completion of school work only half the time prescribed for schools of higher grades. Not only experience but due reflection, however, will convince that the completest mastery of the prescribed work, through the largest degree of self-activity of the child, requires not only more time, but such judicious arrangement of it in school sessions and school periods for recess or recreation, as, in the alternating of recess with school time, will tend to result in the nearest approach to the demands of child nature. Two short sessions, aggregating more than the now almost continuous session, with an hour at least between for physical recreation, will, I have no doubt, permit more satisfactory mastery of the prescribed work and more nearly fulfill the conditions essential to due maintenance of physical health. If our first and second grade schools be placed upon such basis, the number of schoolrooms to maintain it must equal the number of schools.

For other than sanitary reasons the walls and ceilings of the schoolrooms should receive such annual attention as cleanliness and taste require. For many years there has been persistent effort in these schools to make the schoolroom attractive by hanging upon its walls pictures and other designs, by bordering the blackboards with beautiful crayon designs, and by such general decorations and means as, in many instances, not only enforce and illustrate the regular work of the

schoolroom, but tend to inculcate the spirit that encourages attractiveness at the home and elsewhere. Not only for its tendency to draw the child to the schoolroom and retain him has this practice been encouraged, but for that result which, through this silent training of his esthetic side, contributes in his better environment so much to the uplifting of character. There is reason to feel that the effectiveness of this training is, in many schoolrooms, greatly impaired in the contrasts offered by foul and unsightly ceilings and walls.

SCHOOLS AND SCHOOL WORK.

The number of schools during the year was 244. The number of each grade was as follows: First grade, 59; second grade, 44; third grade, 37; fourth grade, 32; fifth grade, 23; sixth grade, 19; seventh grade, 17; eighth grade, 11; high school, 1; normal school, 1. The number of graded schools in excess of that of schoolrooms was 49. This excess necessitated the use of one room by two schools to the extent of the number of schools in excess, one school occupying the room during the forenoon and another during the afternoon. In consequence of the occupancy of one room by two schools the session of each school is shortened. The shortening of the session either abridges the work prescribed for the grade or charges it with a degree of superficiality that is inimical to thoroughness. Such condition is greatly to be deplored. It is due, as already stated under "Accommodation," to the want of adequate provision to accommodate properly the pupils enrolled in the schools. Its disadvantages are felt in all grades of school, but more particularly in grades above the second, in which its deprivation of ample opportunity for due accomplishment of school work is very seriously felt.

In this joint occupancy of a schoolroom objections are also prominent in the denial of those sanitary conditions essential to proper mental and physical condition, and, as in the case of afternoon schools, in the want of those hours for school work in which mental vigor is greatest.

The average number of pupils to the teacher in grammar and primary schools, based on the average number of pupils enrolled, was 41.3. It did not differ from that of the previous year. It is a fair number for the grades generally, but specifically for the most effective work in the first grade, in which so very much depends upon large degree of individual instruction, a less number would allow more and due attention to individual wants and varying capacities. In this grade, in which the pupil's dependence upon the teacher is so great, and where, through the quality and character of its training, its relation to and bearing upon all school work in subsequent grades, and even upon life itself, is of so great importance, a smaller number would more surely insure the best result.

In the quality of the work done during the year there was good degree of evidence of progress. The general trend of the training was commendable along those lines which, in evoking spontaneous activity of mind and judiciously directing same, inclined the pupil to inquiry and independent research. Through adaptation of the matter pursued

to the capacity of the pupil, by which discouragement from too great difficulty and idleness from want of sufficient occupation are more or less removed, there was good degree of training to concentration of energy which is so essential to mental discipline. There was not wanting effort to secure thoroughness and thoughtfulness in all school pursuit, not more for the information to be gained than for their contribution to that mental vigor and grasp so essential to success in all pursuits of life.

DISCIPLINE.

The character of the discipline of the schools during the year, as indicated by the penal means—corporal punishment, suspension, and dismissal—employed in its maintenance was favorable, whether considered absolutely with respect to the record of the year or relatively in comparison with the records of previous years.

There were 38 cases of corporal punishment, or 37 cases less than in the previous school year. If every case indicated a different pupil, this number would show one infliction to every 337 pupils of the entire enrollment. The actual number of pupils punished in this way was, however, less than 38, as the same pupil was in instances corporally punished more than once. There was resort to this punishment in but few schools. Most teachers have come to consider its use as evidence of weakness in ability to govern, and to regard it as a legacy of the past, when physical and not moral forces predominated in the government of the school.

There were 139 pupils suspended from the privileges of the schools, or about one to every 93 of the entire enrollment. The cases were 30 less than in the preceding year. These suspensions, which are generally of not more than two or three days' duration, afford excellent opportunity for conference with parents or guardians, by which in the concert of action established between teacher and parent the pupil is generally greatly benefited, and as a rule saved to the schools.

The number of pupils dismissed during the year was one. This pupil was a boy and the offense was persistent disobedience and defiant disregard of authority. When this pupil is viewed as one out of the 12,854 pupils indicated by the entire enrollment, and when the many and different phases of home life and discipline represented in the schools by this number are considered, there is possible better conception of the significance of this record. It is most commendatory of the ability of the teaching corps to govern, and of the methods through which this ability is manifested.

The figures showing the record of penal measures for the maintenance of discipline give but faint idea of the discipline that prevails in these schools. They pertain to the few whose moral obliquity seemed to favor resort to such means for the maintenance of orderly conditions and, in instances, even for retention in school.

It may be said, and that without fear of successful contradiction,

that as a whole the discipline of these schools is excellent. There are degrees of excellence, as would naturally follow from the varying capacities of teachers, but the school in which the discipline is not good is rare. This condition is not the result of physical force or fear, but of moral forces of the schoolroom, through orderly and systematic arrangement of its workings, through the methods of teaching employed by which the love of study is created and interest maintained in its pursuit; and by the personality of the teacher which, in insuring the confidence and respect of the pupils, inspires through example to constant effort at self-restraint. In the changes wrought by the rational methods through which instruction is imparted and mental power developed, listlessness gives way to attention, idleness to industry and application, and thoughtlessness to observation and reflection, and thus are put into motion in the schoolroom forces through which are evolved the best disciplinary conditions. It is felt in all parts of the system that good discipline is a prime necessity, since a school not well governed can not be well taught.

The contribution of punctuality of attendance to discipline is seen in the record of cases of tardiness for the year. There were 5,327 cases of tardiness, or 51 cases for every one hundred pupils of the average enrollment. While the disciplinary significance of such record in school life is great, the habit formed by training to punctuality in school pursuits is invaluable in promise of effect upon the pursuits of subsequent life.

In the following table are presented the cases of corporal punishment, suspension, and tardiness in each school year during the last twelve years, and the number of cases to every one hundred pupils of the average enrollment; also the number of pupils dismissed from the schools during each year of that period.

[Normal School not included in this table.]

Year.	Average number of pupils enrolled.	Corporal punishment.		Suspensions.		Number of pupils dismissed.	Tardiness.	
		Number of cases.	Number of cases to every 100 pupils.	Number of cases.	Number of cases to every 100 pupils.		Number of cases.	Number of cases to every 100 pupils.
1885-86.....	8,191	159	2	250	3	3	3,906	47
1886-87.....	8,488	110	1	187	2	4	3,345	39
1887-88.....	8,754	78	.....	226	2	9	3,720	42
1888-89.....	9,049	94	1	267	2	8	3,868	43
1889-90.....	9,250	70	.....	234	2	5	3,913	42
1890-91.....	9,679	93	.....	210	2	8	3,714	38
1891-92.....	9,915	110	1	183	1	5	4,109	41
1892-93.....	10,072	102	.....	130	1	2	4,482	44
1893-94.....	10,116	65	.....	156	1	4	4,186	41
1894-95.....	10,021	44	.....	162	1	2	4,597	45
1895-96.....	10,266	75	.....	169	1	4	5,204	50
1896-97.....	10,391	38	.....	139	1	1	5,327	51

The above table affords ready opportunity for comparison, both to determine degree of excellence as well as that of progress, to the extent that such items may serve such purpose.

HIGH SCHOOL.

There were 736 different pupils enrolled in this school during the last school-year, of whom 215 were boys and 521 were girls. Of this number 421 were last-year pupils, and 315 were received by promotion from the eighth-grade schools. The entire enrollment exceeded that of the previous year by 61 pupils.

The average number of pupils enrolled was 640, and the average in daily attendance 614; which shows that the percentage of attendance, based on the average enrollment, was 95.9.

The High School building for these divisions was intended to accommodate not more than 600 pupils. During the last few years the annual enrollment has been in excess of this number. To meet the condition imposed by this excess, one of the only two study halls was, in an earlier year, divided so as to afford two additional class rooms. The diversion of this study hall from its original purpose has ever since been seriously felt in the inconvenience it imposed from the want of accommodation of its character. The inadequacy of proper class-room accommodation so increased with the increase of the enrollment of pupils and that of the elective studies pursued as to cause last year the transfer of the business department of this school to the Garnet building, in which the third school floor was taken for its use. As this building is $1\frac{1}{2}$ miles distant from the High School building, this separation of a large number of pupils from the body of the school prevents the best degree of availability of the teaching force, and affords more or less inconvenience in instruction which pertains to the school as a whole.

In my last report I recommended as follows:

That an additional building be sought for the accommodation of high-school pupils, or, if thought best, that the appropriation asked for the manual-training building be sufficiently enlarged as to permit the construction of a building that will also accommodate the pupils of the business and technical courses of the High School.

Afterthought induces me to withdraw the recommendation of making provision for any part of this school in a building constructed for manual-training uses, and to recommend in lieu thereof an appropriation for either an extension of the present building, if light and other conditions essential to best school purposes make it practicable, or if not practicable, for a separate building. In the extension, if advisable, there will be less expenditure required, and there will result in the preservation of the compactness of the school a degree of supervision most conducive to its welfare.

The following table may be of interest in showing the absolute and relative growth of this school during the last thirteen years:

Year.	Number of teachers.	Whole enrollment.			Number of graduates.
		Boys.	Girls.	Total.	
1884-85	4	22	150	172	28
1885-86	6	37	210	247	33
1886-87	8	51	225	276	39
1887-88	9	73	288	361	51
1888-89	11	81	335	416	67
1889-90	12	64	281	345	41
1890-91	14	82	294	376	86
1891-92	17	104	303	407	69
1892-93	18	117	327	444	90
1893-94	19	140	320	460	99
1894-95	22	197	421	618	131
1895-96	24	198	477	675	49
1896-97	26	215	521	736	79

One of the most encouraging features shown by the above table is the growth in the enrollment of the boys in a comparison between the later and the earlier years. In the first year named the ratio of boys to girls was about 1 to 7; in the last year 2 to 5. The ratio of enrollment of boys in the last year to that in the first is almost 10 to 1.

The causes are apparent in the greater variety as well as greater degree of practicability in the courses of study offered and in the eligibility to admission to the Normal School, from which the teachers of the schools most largely come.

The tone of this school, both in discipline and in the character of its work, was greatly improved during the year, and it indicated that in its present upward tendency time only is necessary for placing the school upon the most satisfactory basis.

On the evening of June 23, 1897, there were graduated from this school 79 pupils, of whom 49 had completed the academic, 10 the scientific, and 20 the business course.

The report of the principal of this school to this office, which gives in detail its operations, is herewith submitted.

NORMAL SCHOOL.

At the beginning of the school year the 26 candidates whose record in the entrance examination, held June 5, 1896, combined with 75 per cent of their high-school record, surpassed that of all other candidates, were, in accordance with the rules, admitted to this school. By special action of the board of trustees, 4 others, who constituted the remainder of the candidates in the entrance examination, were admitted, by which admission the number in the school was increased to 30. As these pupils were the first to enter upon the two-year course prescribed for this

school, there was no graduation from it in June, 1897. There will, however, be experienced in the current school year no inconvenience from this fact in securing a supply of teachers for filling vacancies through resignation or otherwise and for the creation of new teacherships, since there are more qualified applicants for the position of teacher than can be employed. These applicants are graduates of the normal school of these divisions, who were in excess of the demand in former years, and others from approved normal schools. As very many of the former have had considerable practice and experience in substitute service, extending in some instances through a period of several years, the schools can be ably and well provided for.

In the deeper grounding of those in special training for the teachership in those subjects which comprise the public-school curriculum that is permitted by the lengthening of the course, there will, through the fuller knowledge and comprehension of the subjects treated, be more effectiveness in the methods employed in imparting and, in the maturer age for graduation from this school, a keener sense of the responsibility imposed by the position of teacher.

From August 16, 1877, to June 30, 1887, this school was known as the Miner Normal School. Its connection with the public schools was effected by an agreement through which its management was given to a committee composed of two members of the board of trustees of the public schools of the District of Columbia and two of the board of trustees of the Miner Institute for the Education of Colored Youth. By the terms of the agreement admission to it was from the high school of the seventh division (which division at that time embraced all the public colored schools of Washington and Georgetown), and in the same way as that for admission to the Washington Normal School from the high school of the first six divisions. It also conferred upon its graduates the same rights and privileges as to the teacherships in the schools of the seventh division that the Washington Normal School conferred upon its graduates as to the teacherships of the schools of the first six divisions. The board of trustees of the Miner Institute for the Education of Colored Youth nominated the principal and paid her salary, but her confirmation was by the board of trustees of the public schools. The latter also furnished the necessary supplies to the school and exercised supervision over it.

In the year 1886-87 this agreement was ended and the Washington Normal School of the seventh and eighth divisions (now ninth, tenth, and eleventh divisions) was created, with organization, privileges, and powers similar to the normal school of the first six divisions.

The report of the principal of this school to this office is submitted with this report.

TEACHERS.

There were 308 teachers employed during the year in the schools of these divisions, of whom 262 were regular or each in charge of a separate school or class, and 46 special, or those who instruct in some special study and have no permanent charge of a school or of a class. The number of male teachers employed was 46, and the number of female 262. The corps was the same as that of the previous school year, excepting 1 who died, 11 who resigned their positions, 12 who were appointed to fill the vacancies caused by resignation and death, and 11 appointed to the new teacherships.

There are three facts whose beneficial effect upon schools can not easily be overestimated, and these are the degree of proficiency of scholarship, that of special preparation and training for teachership, and the length of experience in teaching.

In respect to scholastic attainment, as indicated by the class of school from which the teacher was graduated, 193 were graduates of the high school and 26 of the college. In respect to professional fitness through special preparation and training for the position of teacher, 221 were graduates of the normal school.

The experience of the corps of teachers ranged from the first year to the thirtieth year. The average experience was about nine years. It is recognized that the attainment of excellent school conditions is not through sheer length of experience, but rather through the degree of successful character. In this essential element it is but just to say that the corps as a whole ranked well.

The facts with relation to scholastic attainment and professional preparation may be more fully set forth in the statement that of the 308 teachers employed during the year 26 were graduates of the high school only; 15 were graduates of the normal school, but not of the high school; 187 were graduates both of the high school and of the normal school; 26 were graduates of the college, and 3 were graduates both of the normal school and of the college.

It may be easily inferred that in the good degree of scholastic attainment, special training for the teachership, and length of experience is to be found much of effective contribution to the success of the schools.

One of the most encouraging features of the schools is the growth of the personal power and influence of the teacher in the schoolroom. In the degree of self-activity effected, in the habits of order, neatness, politeness, obedience, and attention formed, are seen the good influences which the teacher exerts, and very largely the measure of her success.

The number of days the teacher was absent on account of ill health was 1,076. The number, though apparently large, is shorn of much of the unfavorable by the fact that it was made mostly by few teachers. That poor health necessarily detracts from the best teaching is too evident for question. The most effective teaching demands, all other

things being equal, that degree of regularity in attendance which only good health can insure. This fact emphasizes the importance of employing teachers of sound health, as well as those who during their employment exercise judicious care in its maintenance.

In former reports, notably in the last two, I have recommended such changes in the salary schedule that by conferring larger pay upon the first grade teacher for successful experience she may be more largely restricted to said grade than is now with justice to her possible. This recommendation is based upon the very great importance of placing and continuing in said grade the highest order or class of service, service peculiarly adapted to most successful result. Incidentally in that discussion the opinion was expressed that salary rated upon essential attainments and qualifications with length of successful experience in any grade would present a better basis for determining the amount than that of the mere grade of school taught, as now maintains. For fuller presentation of these views I would refer to my last annual report.

NIGHT SCHOOLS.

The entire amount of money appropriated for all night schools in the District of Columbia, both white and colored, was \$6,500, of which \$6,000 were for tuition and \$500 were for contingent expenses. Of the amount for tuition, \$2,300 were allowed to the colored schools in the city, or \$200 less than in the previous year. The entire number of different persons who received instruction in these schools was 1,420. The cost per capita for tuition, for the night-school term, was \$1.61. As the number of this population who can not read and write is very large when compared with that of the adult white population, and when are added to this number the many who have but little, though varying attainments, the inadequacy of the provision is plainly seen. As the result of this inadequacy very many who seek admission to these schools are necessarily denied.

The number of schools maintained by this appropriation was six. The whole number of pupils enrolled in them was 1,420; the average number enrolled, 946; and the average in nightly attendance, 801.

The ages of the enrolled ranged from 13 to 65. The enrollment in these schools is composed of those of the legal day-school ages whose condition in life forbids day-school attendance; those who neglected school opportunity in earlier life, and those to whom all opportunity in earlier life had been denied.

The average number of pupils to each regular teacher was, on the entire enrollment, 57.8, on the average enrollment, 37.8. This number is large and is permitted in order to embrace the largest number consistent with fair result. It bespeaks the large interest of the many in the schools, and equally, in the labor imposed to secure under such condition good result, the sacrificing spirit of the teacher to serve that interest.

The appreciation of this provision, and the estimation in which the character of the instruction permitted by it is held, is also annually shown in the large return of those who have previously enjoyed its benefits for continued enjoyment. It is through such large annual return that a grading in some respects similar to the day-school grading has been established, with its highest step in the business course of the high school. The number pursuing this course was 70.

There were employed in these schools during the term 26 teachers, each, excepting principals, with a compensation of \$1.50 per evening. The principals received each \$3.50 per evening.

The teachers for these schools have been usually selected with considerate care, the aim being, first, to give excellent instructors to this service, irrespective of their employment or nonemployment in the day schools, and, then, all things being equal, to the employment of teachers who have not otherwise been provided for. Day-school teachers have been placed in the principalships on account of their proficiency in the day-school position; they have also to some extent been employed in subordinate positions when satisfied that they would render the best service. It is invariably advocated that, in all appointments to the teacherships of these schools, the pupils' good be primary in consideration.

The corps of teachers employed last year, of whom the most had had experience in these schools, rendered excellent service. In their intelligent, conscientious, and painstaking efforts, they were, as in previous years, successful in evoking the best efforts of their pupils, as was amply shown by the avidity and earnestness with which they sought and received instruction, by the maintenance of regularity in attendance, and by such propriety of conduct as insured respectful bearing toward their teachers and toward one another.

Not only is the appropriation for these schools wholly inadequate to extend largely their benefits to the many in need and desirous of acceptance of such provision, but likewise inadequate to maintain a term of length sufficient for very appreciable benefit.

The term opened October 5 and continued until February 3. Within these dates there were in all forty-five evenings, of two hours each. An aggregate of ninety hours, or eighteen days of five hours each, shows emphatically the advisability of a considerably larger appropriation than any that has been made during the last ten years. I would here renew my annual recommendation that a larger amount than is now appropriated be sought for this department of public-school work.

In addition to the regular schools, one night cooking school was maintained during the term. The other was not reopened on account of the less money received in the allotment to the night schools of these divisions than that received in previous years.

The following table gives, among other items, the entire enrollment, the average enrollment, the average attendance, the number of teachers

employed, and the cost of instruction in each of the six night schools, as well as for all:

Night schools.	Whole enrollment.	Average enrollment.	Average attendance.	Percentage of attendance.	Time.		Number of teachers.	Average number to the teacher.	Cost per night.	Entire cost of teaching.
					Number of nights.	Number of hours.				
Sumner.....	335	186	138	74.4	45	90	6	31	\$11.50	\$517.50
Wormley.....	80	68	61	89.6	45	90	3	22	6.50	289.50
Garnet.....	172	134	118	87.9	45	90	4	33	8.00	360.00
Cook.....	279	187	157	81.1	45	90	4	40	8.00	360.00
Lincoln.....	218	142	123	86.7	45	90	4	33	8.00	360.00
Randall.....	336	229	204	88.1	45	90	4	57	8.00	360.00
Randall (cooking).....					26	52	1	.....	2.00	52.00
Total.....	1,420	946	801	84.4	.....	.....	26	37.8	52.00	2,299.00

a Based on the average enrollment.

Herewith are submitted the reports made to this office by the principals of the several schools, giving in more or less detail their operation and contributing much in support of the recommendation to extend this service, both as to accommodation and as to length of time for instruction.

SUMNER NIGHT SCHOOL.

WASHINGTON, D. C., February 3, 1897.

SIR: Together with the annual report, permit me to submit the following statement of the work done during the past term in the Sumner Night School:

Of the total enrollment of 335 pupils 70 were in the business class, the remaining 265 being distributed with varying proportions in the grades ranging from the first to the eighth, inclusive. From the beginning of the term to the close the room occupied by the third and fourth grades was the most largely attended. The first and second grades and the fifth and sixth grades were about equal in the number of pupils attending, though they were much smaller in this respect than the business class, which ranked next below the third and fourth grades.

The attendance from the beginning of the term to the 1st of December was about all that might be desired. With the advent of cold weather and the opening of the social season, however, there ensued a decided falling off in attendance, due, no doubt, to the great number of pupils whose occupations were of such a character as to forbid on their part a more regular attendance. Notwithstanding this the percentage of attendance for the term will, it is believed, compare favorably with that of other terms.

The past session was no exception to the rule of being brief, its duration of forty-five nights of two hours each about equaling one month in the day school. Within that limited time the ingenuity of the teachers was greatly taxed, though not without success, to cover in a satisfactory manner all the work that lay before them.

In the lower grades numbers and language claimed the greatest attention. All lessons, indeed, were made to contribute to language, and whether in the statement of a simple number problem or in a blackboard copy for penmanship care was taken that the pupils, being presented with the best forms of expression, should make use of the same.

In the fifth and sixth grades the geographical and historical readers were used with much advantage, these works serving not only as sources of interesting facts,

but also, in the compositions which the pupils were required to write about the facts, as most valuable means of language training. In these grades the work in arithmetic, which was as largely individual as the time would permit, was about the same as that of the day school, common fractions in the fifth and denominate numbers in the sixth receiving the greatest attention.

The language work of the seventh and eighth grades and of the business class was highly satisfactory. By means of carefully selected passages from the works of standard authors a much-needed drill was given in formal grammar, which, while not altogether neglected, received but incidental treatment in the preceding grades. Not less satisfactory, both as to the method of instruction and as to the results obtained, was the arithmetic work of these grades. The principles of percentage and their many applications as subject-matter were taught in a manner to confer upon the pupils much practical benefit.

The work done in the more distinctly business subjects of bookkeeping, typewriting, and shorthand was not without merit. In addition to having the pupils write a series of sets designed to teach the principles of double-entry bookkeeping time was found to show the use of various business papers, as well as to give brief talks concerning banks and banking. The work in typewriting, which included finger exercises for beginners and for advanced pupils the execution of business, legal, and miscellaneous papers, was creditably done. The endeavor in shorthand was less to acquire great speed than to gain familiarity with the principles of the study. With this end in view many exercises were given, especial stress being laid upon transcribing longhand into shorthand.

Very respectfully,

Mr. G. F. T. COOK,
Superintendent of Schools.

D. B. THOMPSON, *Principal.*

WORMLEY NIGHT SCHOOL.

WASHINGTON, D. C., *February 3, 1897.*

SIR: I herewith submit to you a brief statement of the Wormley Night School for the year 1896-97, closing the above date.

The whole number enrolled was 80; average attendance, 61; percentage of attendance, 89.6.

The number enrolled did not equal that of the preceding year, many of the younger pupils having left the town to find employment.

The percentage of attendance exceeded that of the previous year, showing the interest to be unabated.

Having fewer pupils permitted us to give them more individual attention, thus bringing about good results not heretofore attained.

Very respectfully,

Mr. G. F. T. COOK,
Superintendent Public Schools.

ANNA M. MASON, *Principal.*

GARNET NIGHT SCHOOL.

WASHINGTON, D. C., *February 3, 1897.*

SIR: In reviewing the work of session of the Garnet Night School, which began October 5, 1896, and terminated on the above date, I feel much encouraged with the results. The early opening figured prominently in making the term favorable. It had the effect of adding to the roll many earnest, prompt, and tenacious pupils, who attended promptly and as regularly as is possible, employed as many of them are, the regret expressed on every hand being that the term was so suddenly closed.

The enrollment was 172, not so large as it was the previous year, due, I have strong reasons to believe, to the proximity of the Summer Night School.

Our aim has been to fit those who attended for the business side of life, and in this I feel highly gratified. Beginning in the lowest grades and pursuing the same methods through the highest, this particular kind of work was followed: Measuring, buying and selling, making change, writing, reading, and spelling in the first grade, with emphasis on this kind of work, and adding such other work as the needs required, until business arithmetic (business forms being stressed), letter-writing, geography, history, and civil government were taken up in order.

The pupils deserve commendation for the good order both in and about the premises, as well as coming to and going from the school.

In conclusion, I wish to thank my assistants for the earnest and faithful assistance in everything looking to the good of the work.

Very respectfully,

Mr. G. F. T. Cook,

Superintendent Public Schools.

E. F. G. MERRITT, *Principal.*

LINCOLN NIGHT SCHOOL.

WASHINGTON, D. C., *February 3, 1897.*

SIR: I have the honor to submit the following report of the Lincoln Night School, which closed on the above date.

The return of most of the last-year pupils gave great encouragement to the teachers. The attendance was good during the term. The earnestness of the pupils and the progress which they made were most gratifying to all. Forty-two persons who knew absolutely nothing were taught to read and write fairly well and to perform simple problems in arithmetic.

Deep regret is expressed by all that the school term was not longer.

Very respectfully,

Mr. G. F. T. Cook.

Superintendent of Public Schools.

K. U. ALEXANDER, *Principal.*

RANDALL NIGHT SCHOOL.

WASHINGTON, *February 3, 1897.*

SIR: I herewith submit the records and reports of the Randall night school, which closes with this date.

This school session has had the largest enrollment of any since the organization of the school. The entire enrollment was 336, an increase of 60 over the previous highest enrollment. Of this enrollment 53 were "last year's."

The attendance has been very good and the interest has not lagged.

The pupils were so much interested in the advantages offered by the school that they were not satisfied till they had brought their relatives and friends with them. Sometimes they came with one friend, sometimes would bring five or six. I was greatly impressed when one evening I enrolled a mother and her three daughters, all anxious to learn.

The one thing to be regretted is that the sessions of the night schools are so very short.

The success of the school is, in no small degree, due to the faithful assistants.

Respectfully, yours,

Mr. G. F. T. Cook,

Superintendent of Schools.

JAMES STORUM, *Principal.*

PHYSICAL CULTURE.

There was no marked difference in this subject over the previous year. In the instruction there were shown the same degree of comprehension of its aims and of the benefits to be derived from proper presentation of it and equal insistence upon the exercise of the means essential to good result. The good results, both physical and disciplinary, accruing from its introduction are apparent in all the schools, and are increasing as the years since its introduction advance.

The report of the director is herewith submitted.

MANUAL TRAINING.

As in several preceding school years, there were four regular shops in wood and one in metal. Two of the former and the one in metal are located in the Miller Building; one shop in wood is located at the Stevens and the other at the Randall. On account of the degree of inaccessibility to these shops to the boys residing in the eastern section of the city benches in sufficient number were constructed and placed in the western basement room of the Lincoln school, where the teacher met the classes assigned to it at certain periods of the week. At other times he was engaged in the instruction of classes at the Miller Building. This temporary arrangement did not interfere with the Lincoln School in its recesses or otherwise. The room itself, however, is very poorly adapted to the use of the shop, mainly on account of its want of ventilation and its poor light. The shop for metal work continues incomplete in its equipment from the inadequacy of the means, through the present annual appropriation for manual training, with which to complete it.

The number of pupils who pursued work in these shops during the year was 1,120, of whom 98 were in the metal shop. In the wood shops the enrollment was 193 more than in the previous year, and in the metal 23 less. These pupils, with few exceptions, were from the seventh and the eighth grade schools and from the high school. The exceptions embraced the larger boys of the lower grades, extending to the fifth grade. Such boys were afforded the privileges of the shops because of the inability of very many to remain in the schools until they reach the grades for which this training is regularly prescribed. It is believed that in many of them even this slight opportunity for receiving this instruction may not only develop latent aptitude, but create desire for future mechanical pursuit.

The number of teachers employed in giving this instruction was 8, of whom 6 were in the shop for wood working and 2 in the shop for metal working. The results of the work in the different departments were of highly satisfactory character, and very creditable alike to teachers and pupils.

Though much of the time is constantly given to the educative char-

acter of this work, through which qualities of mind essential to excellence in any pursuit, physical or mental, are developed, that phase of it through which there is promise of the more practical receives considerable attention. Its fruit is to be seen in the different useful articles which have been constructed. Some of these have been made serviceable in many of the regular schoolrooms at no expense save that of the material used.

In advocacy of a building specially adapted to this training I would quote from my last report:

In the incompleteness of the plant from the want of means and the indifferent character of the building in which the main plant is, much inconvenience is still experienced. The building which is rented for this department of instruction was erected about thirty-one years ago, but not for school purposes. It was converted into a schoolhouse in 1866, and was used for graded schools by the public schools of the second division during many years.

In 1887-88 it was again rented by the District for the use of the schools of these divisions, and such interior changes were made, especially by the removal of the room partitions of the first and second floors, as would give such degree of adaptability to manual-training uses as its structural conditions would permit. Though this building is perhaps as nearly central as may be desired, it is in many ways ill suited to its uses, and not without favoring strong suspicion as to its safety, even with its incomplete plant, when subjected to the jar and strain from the motion of machinery driven by steam. What is needed, and urgently needed, is a building constructed with special adaptation to the purposes of its use, and embracing the latest and most improved conveniences and facilities for carrying on the work of this department of instruction.

COOKING.

Near the beginning of the school year the two kitchens that were located in the Miller Building were removed to 917 P street NW. Though this was done to afford much needed room to the manual training shops, yet the change was favorable in the better environment it offered to the girls without appreciable loss of degree of accessibility.

In these divisions there are four kitchens, two of which are located, as already stated, at 917 P street NW., one at the Stevens Building, and one at the Randall. In the accommodation they offer they are sufficient for all the girls who are by grade eligible to instruction in cooking. Though in number sufficient to embrace all the eligible girls, they do not, in many instances, afford the degree of accessibility that should obtain. Girls residing in certain sections of the city are now compelled to travel two or more miles to receive this instruction. This, however, can not be obviated without incurring much additional expense in locating other kitchens at accessible points. Such increase in the number of kitchens, without increase in the number of pupils, would also give much space that could not be utilized.

The number of girls who received instructions in cooking was 731, or 64 more than last year. The number of teachers employed in instruction in cooking was 5, one of whom was the director.

The report of the director is herewith submitted.

SEWING.

The more extensive embrace of this branch of industrial instruction confers upon it considerable importance. In its reach from the third through the sixth grade there are afforded much time and opportunity, not only for large attainment in the practical work, but for the development of those mental and moral qualities which proper training permits. The number of girls who received instruction in sewing was 3,190, of whom 1,090 were in third grade, 924 in fourth grade, 681 in fifth grade, and 495 in sixth grade. In addition to the pursuit of this industrial branch of instruction in the regular schoolrooms under the direction of the special teachers of this branch, there were three shops, or parlors, located in the Miner, John F. Cook, and Lincoln buildings. Instruction in these shops, which embraces the cutting and fitting of garments, is restricted to sixth grade girls, and preferably to the larger girls of the grade when the means provided are not sufficient to include all. The number of teachers in charge of this branch was 8, of whom 1 was the director. The number of girls who received instruction in cutting and fitting was 495.

Near the close of the school year, upon special invitation, an exhibit, representing quite fully the work in all grades, was placed in New York City. The general character of the work was most favorably commented upon, and reflected much credit upon this department of our school work.

The director's report, which is full of detail, is herewith submitted.

CONCLUSION.

The constantly growing and intensifying impression that a training more practical than that which has so long prevailed should be given to youth gives to this subject special importance. The doubt as to its practicability in the public school, prevalent in earlier years, is rapidly being removed. It seems no longer an experiment, but a positive success, and one inviting to fuller and more varied training along its lines. In the ten years which have elapsed since its introduction into these schools sufficiency of time has passed to convince that its good effect upon the more purely intellectual school pursuits is of additive rather than of subtractive character. In the recreation resulting from the degree of physical diversion from the formerly restricted mental pursuit there is given vigor to mental energy along all lines.

Viewed from its more purely educative character, in training to close observation, to persistent application in effort for expression and for accuracy in execution, and to nice discrimination in comparison, there is large tendency to formation of habits very essential to quick and thorough mastery in all intellectual studies.

Viewed from the more purely objective side, from that of the commercial value of the product through the manipulation of the material

used, by which are presented means for future livelihood, there has been evinced good degree of aptitude, as well as firm basis for much promise through larger and more varied pursuit.

In connecting public school life with that without, through this more practical training, there is larger promise of good in the future. The present want of opportunity to fit for such employment as conduces to honest, industrious, and worthy citizenship is severely felt. There is also not wanting reason to believe that in such provisions by the public school very many who now do not attend school would through the future promise from such provision quickly avail of the opportunity, and by such means would be indirectly diverted from a life with tendency through idleness to vice and crime.

Any argument, therefore, for large provision along this more practical line of training is in the interest of the many who go forth from the public schools to meet the requirements of life.

Very respectfully,

G. F. T. Cook,
Superintendent.

The BOARD OF TRUSTEES.

NINTH DIVISION.

WASHINGTON, D. C., *June 30, 1897.*

SIR: I beg leave to submit a report of the condition of the schools, and of the school property of this division for the year ending June 30.

Table showing distribution of schools.

Building.	Eighth grade.		Seventh grade.		Sixth grade.		Fifth grade.		Fourth grade.		Third grade.		Second grade.		First grade.		Total.	Rooms.	Teachers.
Sumner.....	1	2	2	3	1	...	...	...	...	...	...	...	...	...	...	...	9	9	9
Magruder.....	...	...	1	...	1	2	3	3	10	7	8	...	...	...	...	...	...	...	...
Stevens.....	1	1	2	2	4	4	3	4	21	18	21	...	...	...	...	...	...	...	...
Briggs.....	1	1	1	1	1	1	2	3	11	8	11	...	...	...	...	...	...	...	...
Wormley.....	...	1	1	1	1	1	2	2	9	8	9	...	...	...	...	...	...	...	...
Phillips.....	...	1	...	1	1	2	2	2	9	8	9	...	...	...	...	...	...	...	...
Garrison.....	1	1	1	1	1	1	2	2	10	8	10	...	...	...	...	...	...	...	...
Miner.....	...	...	1	...	1	2	1	1	6	6	6	...	...	...	...	...	...	...	...

Whole number of pupils enrolled.....	4,095
Average enrollment.....	3,377
Average attendance.....	3,210
Percentage of attendance.....	95
Number on roll at close of year.....	3,045

The benefits to the schools from the increased accommodations afforded by the remodeled Stevens building were plainly visible and were hailed

with unfeigned delight by parents, pupils, and teachers, who had suffered so long from the disadvantages of the half-time school that they had come to regard it as an imposition on the part of those who have their schools in charge. A discussion of the evils of the half-time session, I fear, would prove an annoying repetition of what has been the subject of annual complaint. I shall venture, however, to call your attention briefly to the absolute necessity of continuing the use of the Miner building.

The natural yearly increase in the schools and the demand of the normal school for additional room next year make the question of accommodation one of imperative importance. To abandon the use of this building would in effect be an abridgment of the course of study for a large number of third, fourth, and fifth grade schools. A return of said schools to the half-time session would afford just cause for complaint and unquestionably reduce the attendance.

The Miner building, because of its central location and its consequent accessibility, is the most desirable and economical school site in this division. Nowhere else can a building be located and made to accommodate so large a number of pupils with so little inconvenience as to distance. A building located in any other part of the division would accommodate only those living in its immediate vicinity.

SCHOOL WORK.

I am pleased to report that, with few exceptions, the teachers labored with that earnestness and honesty of purpose which has characterized their work in former years. I wish to call attention to the constant and what, at times, seems persistent encroachment of certain special teachers on the time of the regular studies.

It is but fair, however, to these teachers, to say the encroachment is without malice aforethought, but is due rather to the amount of work required by them. I beg to suggest that the work of these teachers be arranged and assigned with reference to the time to which their departments are entitled. There is no disposition to disparage the value of the work in any of these departments, or to reflect in the least degree on the directors, but I wish to emphasize the fact that the value of the special studies is diminished just in proportion as they infringe on the time of other work.

In promoting the work of the schools, teachers' meetings for special instruction are indispensable within certain limits; but beyond these limits, they obstruct progress rather than promote it. The necessity for frequent grade meetings seems to me to carry with it the further necessity of holding them on Saturdays.

FREE BOOKS.

Number of free text-books on hand at close of year.....	22,779
Number lost during year.....	39
Number destroyed on account of contagion.....	8

The number of free text-books has increased from year to year until there are over five hundred in some grades. The teachers are made responsible for the care and safekeeping of these books, a difficult task, even under favorable circumstances; but the lack of locks, closets, and other means of protection renders its performance exceedingly arduous.

It is well-nigh impossible for teachers to prevent the loss of books in rooms occupied by two schools, especially where one of the schools is a night school. Justice to the teachers requires that they be relieved of the burden of this duty until the facilities for discharging it will warrant the penalty of the failure. Every year teachers are required to pay for books for whose loss they should not be held accountable. Can not something be done to protect the property and make the duty required of the teachers reasonable?

SHOE FUND.

The shoe fund for the year just ended consisted of the proceeds of a concert given in the Nineteenth Street Baptist Church last December.

Receipts from concert.....	\$199.80
Cost of concert	\$56.40
Number of pairs of shoes furnished	150
Cost of shoes	\$140.20
Amount on hand.....	\$3.20

Very respectfully,

H. P. MONTGOMERY,
Supervising Principal.

Mr. G. F. T. COOK, *Superintendent.*

TENTH DIVISION.

JUNE 30, 1897.

SIR: I forward you herewith my statistical report for the year ending June 30, 1897.

In doing so I desire to report also that in the main the work of this division has been satisfactory.

Permit me here to acknowledge the support I have received from your office and to express through you to the local trustee, Mrs. Terrell, my thanks for her uniform encouragement and assistance.

Very respectfully,

J. H. N. WARING,
Supervising Principal.

Mr. G. F. T. COOK,
Superintendent of Schools.

ELEVENTH DIVISION.

WASHINGTON, D. C., *June 30, 1897.*

SIR: In compliance with the rules and regulations governing the duties of supervising principal the report of this division of the public schools is herewith submitted.

The usual statistics and other desirable information have been presented elsewhere, and it is the purpose here to call your attention to the administration of the schools since September last.

While acknowledging the efforts of my predecessors to lay a substantial foundation for an excellent system of schools, it is the desire to emphasize the means of improving the present status—to take a peep into the future rather than a look into the past.

The increasing enrollment and the marked improvement in the daily attendance are signs of a deepening appreciation of the work carried on by the schools. The inference to be drawn from a close study of the statistics is that the schools have met with commendable success in securing promptness and continuous attendance.

ACCOMMODATIONS.

Considerable trouble has been experienced during the present school year in providing room for the pupils of the South Washington district. This has been due partly to the Anthony Bowen School being closed while undergoing rebuilding, but chiefly through the increased number of children applying for admission. These inconveniences have caused schools through the fifth grade to have only half-day sessions. A new school located in the district south of K street and east of the James Creek Canal is one of the needs of the near future.

PROFESSIONAL.

In this division there are 71 teachers, of whom 7 are principals of buildings.

The teacher is the important factor in the education of the child, and the character of any school system is determined largely by those composing it. Happily for our schools, the Board of Trustees demands that every successful candidate shall have literary ability and professional skill. In our opinion health and enthusiasm for the work are just as essential as scholarship and experience.

NATURE STUDY.

Recognizing that a study of nature is one of the most effective means of developing the perceptive faculties of children and of increasing their capabilities of enjoyment, we have encouraged the teachers in their efforts to direct the minds of their pupils to this subject. In no other subject have we seen keener interest manifested by the child. Calyx, corolla, stamens, and pistils are not terms simply read about and then turned from in disgust, but, with the flower in hand, they are

living realities, as much so as the other common domestic objects, viz, cat, dog, mouse, etc.

Elementary lessons in zoology, physics, and mineralogy have been given without interfering with the other studies. These lessons serve as language-development exercises.

HISTORY.

This subject, which prepares the boy and girl for intelligent citizenship, is rightfully given a prominent place in our course. Our aim is to create such an interest in the subject that the children will greet the return of the history lesson with a degree of delight greater than it is possible to secure for the arithmetic or geography period.

When this has been accomplished, the inculcation of the principles of patriotism will be an easy matter and reverence for the flag and what it represents will then be an assured fact.

READING.

Aside from the mental and vocal culture it affords, reading is the most important subject in our course of study, being the foundation of all others. The listless habit acquired in the reading class is largely responsible for the unsatisfactory progress in history, arithmetic, and geography. Correctness of expression and clearness in articulation are good in themselves, but the important thing in this subject is that the teacher shall train the child to give in his own language the thought contained in the paragraph or lesson. The quality, not the quantity of the work, is the criterion.

MEETINGS.

The management of the schools and the professional spirit which pervades a department of instruction may be judged from the programmes carried out in the meetings held by the supervisor with the teachers. The policy which is to be pursued with reference to any particular phase of the work is brought to their attention, and after explicit directions the course indicated is worked out in the class room by them.

CONCLUSION.

On assuming this position, just a few days before the opening of the schools in the fall, after having prepared to work in a different department, the task seemed at the time insurmountable. But it is gratifying to know that through the united and faithful efforts of the teachers, who met us more than half way, the tendency of the schools has been steadily upward, and the utmost harmony and good-will prevail.

Very respectfully,

E. W. BROWN,
Supervising Principal.

Mr. G. F. T. COOK,
Superintendent of Schools.

HIGH SCHOOL.

WASHINGTON, D. C., *June 30, 1897.*

SIR: I have the honor to hand you a report of the High School for the session ending June 30, 1897.

ATTENDANCE.

The whole number enrolled during the session was 736, of which 215 were boys and 521 girls. This large number caused a very crowded condition of affairs, compelling the use of the assembly hall for two sections until relief reached us by the removal of the business course, October 6, 1896.

The number of withdrawals during the year was 75—quite a good showing when the unfavorable circumstances surrounding very many of the pupils are taken into consideration. Tardiness is the most serious evil with which we have to contend. The number of cases for the entire year was 632. The situation of this school—in one corner of the city—the large quota of pupils attending from the county and West Washington, and the fact that very many are forced to walk a part, if not the whole, distance from their homes to school all go to cause tardiness. Again, numbers are employed and often are unable to get away from their work in time.

Forfeitures reached 270, due to sickness and the hardships experienced in reaching the school, which is attended by pupils from all parts of the city and the District of Columbia. The average number on the rolls during the year was 640, with an average daily attendance of 614.

The percentage of attendance for the session reached 95.9, which shows how well the students and patrons appreciate the school, and also evidences zeal on the part of the teachers. In every case of absence the teacher at once sought the cause, thereby reducing the tendency to neglect school duties to the minimum. It must be truthfully said that very little truancy occurred.

DISCIPLINE.

Only three cases of suspension occurred, and but one dismissal. The object has been to save the pupil from the disgrace of being cut off from the privileges of the school and from the contaminating influences of a street career.

Both the girls and the boys have had the freedom of the street during the noon recess, and no well-founded complaint has been brought against their conduct. Believing that proper behavior in public is an important part of education, we have constantly held up before them the necessity of being circumspect in this matter.

ACCOMMODATIONS.

This building is entirely inadequate to properly classify and smoothly instruct the number of pupils annually enrolled in the High School. Study halls, so essential to good discipline and good order, are lacking,

only one being found here, and used as a class room for two large sections. Formerly two study halls were connected with this school, but the growth of the school necessitated the partitioning off of one into two class rooms, which are too small, poorly lighted, and worse ventilated. The hope is indulged that the time will never come when, even temporarily, the only remaining hall shall be mutilated into undesirable class rooms.

REMOVAL OF THE BUSINESS COURSE.

On October 6 the business course, aggregating 105 pupils, was transferred to the top floor of the Garnet Building, located at the corner of Tenth and U streets northwest.

This step relieved the congested condition in the High School building, enabling the remaining classes and courses to prosecute their work more profitably. But time has demonstrated the fact that the business course has suffered in being so far detached from the central building and authority, especially since the students were put under two jurisdictions. The harm has come in the loss of time in going to and fro for instruction in the military company and in the falling off of numbers of pupils who probably would have stayed in school had they remained in closer touch with the great body of boys and girls.

In this connection it is respectfully suggested that the business course, so long as it is to be considered a part of the High School proper, be brought nearer the main school, that the spirit and influence of the central body may be felt. The lack of suitable furniture in the Garnet was a serious drawback, the old-fashioned desks making it difficult for pupils to perform well their tasks in drawing and ruling.

For the health of pupils, for the saving of heat, and for the preservation of good order, attention is earnestly called to the need of a gate leading from the boys' side yard to the street entrance, and of a fence separating the boys from the girls. This will allow the boys to pass in and out through the basement during recesses and dismissals without exposing the corridors to drafts in cold and gusty weather. Brick walks should be laid from the east and west street entrances to the gates leading to the yards.

SUBJECTS TAUGHT.

BIOLOGY.

The course in biology, which was prescribed for all candidates for the Normal School, included 100 third-year pupils in the academic and scientific courses. The crowded state of the building at the opening rendered the establishment of a laboratory impossible until more room was made in October, when the real work was properly begun. By the purchase of several microscopes and other apparatus the nucleus of a good laboratory has been started, which, through the enthusiasm and indefatigable efforts of instructor and pupils, has already grown to good proportions, and this subject bids fair to become very attractive and profitable.

Pupils have been led to investigate in a scientific way the phenomena of life as manifested in the various plant and animal types studied. The morphology of several representatives of the families of animals was studied, especial attention being put on the marine species with which the pupils were not familiar.

Boyer's Elementary Biology was used as a laboratory guide, and pupils were required to describe and draw the instructive and interesting phases of their examination. Papers showing research as to the economic value and best methods of raising and preserving marine food species were, from time to time, presented by the pupils.

After a brief course in cells, with Sedgwick and Wilson's Biology as a guide, attention was directed to a few of the most interesting modes of reproduction exhibited by flowers. Lectures on the species of plants and animals studied and on related topics were interspersed with visits of observation to the National Museum and Fish Commission.

Specimens of the local fauna were secured during spring trips to neighboring fields and forests. The best methods of preserving both plant and animal specimens were fully illustrated. By assistance from the instructors in physics and chemistry the facilities for investigation and preservation were greatly increased. Through funds obtained from a lunch furnished by the biological classes the work was made doubly profitable in the study of material got from the markets. The summer vacation will be utilized by the pupils of the next year in gathering material for study.

BOTANY.

The work of the year comprised the study of the plant as outlined in Bergen's Elements of Botany, with additional facts presented to the classes. Microscopic work was carried on throughout the year, including a study of the low forms of cryptogamous life and the examination of cells and tissues of the higher plants. Drawings of all sections observed were required. Complete studies were made of the development of the plant from the seed, records of observations and drawings being made to show each step in the development.

With the advent of spring a detailed study was made of the habitat, characteristics, and habits of plants, singly and in groups. These plants were carefully collected, examined, and analyzed for herbariums. The class has made excursions into the fields.

CHEMISTRY.

The introductory work in this subject consisted of the study of the metals and nonmetals in the laboratory and recitation room. Frequent written and oral reviews were given, and many problems bearing on the work were solved. The practical side was presented throughout the year and constant effort made to strengthen the habit of observation and to lead the learner to draw original conclusions.

ADVANCED CHEMISTRY.

In this a thorough course was given in qualitative analysis. The major part of the time was spent in the laboratory, the remaining being devoted to recitations, written tests, lectures, and discussions. Pupils were required to present papers on some practical subject, as food adulterations, chemistry of foods, dyes, etc. A few simple gravimetric tests were taken in quantitative analysis.

DRAWING.

Sixteen regular classes were instructed in this subject. The work of first-year classes embraced geometrical and object drawing from natural and manufactured objects. In connection with this work color was used. During the last six weeks attention was turned to historic ornaments.

The second-year classes pursued a course similar to the first, but of a higher character.

The work followed in the third year embraced study from nature—leaves, plants, flowers, and fruits. This work created interest in observing form and color and was an aid to the study of botany. Fourth-year pupils pursued the same lines of work as the preceding year, with the addition of insects, stuffed birds, and animals, which were drawn and colored. This year there has, through the energy of the drawing instructor, been added a museum containing a good collection of objects suitable for study. This feature of the drawing has awakened enthusiasm among students and is in line with the work of the first four years in the primary grades.

SPECIAL CLASS.

This feature is very valuable in that it offers a field for further progress to many specially gifted. More seek admittance than can be accommodated. The work followed is practical, enabling the pupils to utilize their knowledge and skill in a remunerative manner. Sign drawing and painting, picture-frame drawing and carving, drawing and painting from various objects were taught. Considering the importance of drawing in the industrial arts and sciences it would be well if the time given to it could be increased to two hours per week.

ENGLISH.

First year, four hours per week.

During the first quarter the classes took up letter writing, punctuation, and the study of the sentence grammatically and rhetorically. Clearness and correctness of expression were sought, the need of a definite purpose in speaking and writing being made paramount. Description was dwelt upon and exemplified both by using materials found in the texts studied and the personal observation of the learner. Much written composition from outlines was required. The classes read Dickens's Christmas Carol.

In the second quarter the study of the sentence was continued. Macaulay's *Warren Hastings* was read, which afforded opportunity for comprehending the paragraph. The practice in composition, oral and written, was continued.

Warren Hastings was finished and Tennyson's *Idyls of the King* taken in the third quarter. The pupils read *The Coming of Arthur* and *Launcelot and Elaine* to grasp the story in outline. Upon reaching the fourth quarter, *The Holy Grail*, *Guinevere*, and *the Passing of Arthur* were read. The class now entered upon a critical study of *Elaine*, noting beauty of expression, choice of words, figures, and memorizing many striking passages.

The classes briefly studied the lives of Scott, Coleridge, Wordsworth, and a few other authors. They also read the *Rime of the Ancient Mariner*, merely to get the story and to still further introduce them into the field of English literature.

The allotment of four hours weekly to this subject has produced highly beneficial results. The pupils in many instances showed weakness in grammar and in inability to grasp and interpret thought.

Prior to entering upon the work here they should be taught to select, properly arrange, and set forth the thought before them. They also need a better mastery of the forms of the English language.

Second-year classes, four hours a week during two quarters.

The Merchant of Venice was studied by these pupils. Careful attention was given to the study of words, figures, and historical and literary allusions. Frequent paraphrases, oral and written, were made. The composition here was based on the characters and incidents of the play, the writing being done sometimes in and sometimes out of the class room. The constant aim was to teach the pupil to express his thought in good English; the principles of rhetoric, stress being put upon clearness, force, and unity. Many noble passages were memorized and recited. Although at the outset the text seemed somewhat difficult, the energy and enthusiasm of the instructors aroused a great and abiding interest among the pupils.

Third-year classes, four hours a week. During the first and second quarters Books I and II of Milton's *Paradise Lost* were critically read, and in the third and fourth *Hamlet* and *Macbeth* were studied. Words, structure of sentences, poetic beauties, figures, etc., received due attention. Pupils were required to grasp the entire plot of poem or play, and to give a connected account of what was done by each character. The memory was stored with many fine extracts. The pupils read out of class one other of Shakespeare's tragedies and reported thereon. English literature from the Anglo-Saxon period to the latter part of the seventeenth century was studied. To think logically and to express their ideas clearly and concisely has been the constant unremitting aim.

Fourth-year classes, four hours weekly. Nineteenth-century literature was studied, with readings from Wordsworth, Macaulay, Tennyson,

Ruskin, George Eliot, and Robert Browning. The salient points of rhetoric were reviewed, lectures on the rise and development of the English novel and on literary criticism were given. Original critical essays on the works and authors read were prepared and read by the pupils. Oral composition, the ability to rise and express in terse, choice, and cogent language what one thinks received marked attention. Realizing the value of treasuring up in the mind excerpts from the writings of those who have made English glorious, pupils were required and encouraged to commit to memory portions of the texts. The work sought not only familiarity with the compositions of these authors, but the correct use of the paragraph, individual criticism, and an appreciation of the best in literature.

The subject of English is a most fruitful one, and should be exalted by every available means, by an early increase in the number of books of reference to be found in the library, by instilling into the learner's mind a love for reading, and furnishing material to nourish that love.

FRENCH.

Two classes pursued this language. The pupils first taking it up were greatly aided by being already familiar with a foreign tongue. The use of French in the recitation was insisted on as much as possible. Fontaine's *Livre de Lecture et de Conversation* was used. One hour a week during the last two quarters was spent on dictation and sight reading. Three hours were devoted to reading, conversation, translation, and grammar.

The pupils who had spent one year in French translated the selections in *Historiettes Modernes*, Volume I. By holding in memory passages learned, many conversations based on them were carried on advantageously.

Sight reading and composition received a reasonable amount of effort.

GERMAN.

This language is prescribed for all scientific pupils, and is elective for academic classes in the third and fourth years.

First-year classes: Making use of Bernhard's *Sprachbuch*, Volume I, the pupils were given a good working vocabulary, a knowledge of the definite and indefinite article, the proper pronunciation of words, and their printed and written forms. Translations from German into English and English into German, oral and written, occurred almost daily. Analysis and parsing were taught in connection with the readings. Portions of *Kleine Geschichten* were read. German was mainly used in recitation, but English was not entirely banished.

Second-year classes: *Bilderbuch ohne Bilder* and *Brigitta* were studied. Lessons in syntax and prose composition were given from Sheldon's *German Grammar*. The correct and expressive reading of the German, exact idiomatic English translation, a fuller mastery of

forms, and the ability to translate at sight have been the object. The lack of form mastery and meager vocabulary have handicapped progress. An increase in the amount read the first year, together with a more thorough acquaintance with the forms of the language, will enable the second year pupils to do their specific work better.

Third-year classes: Goethe's *Herrmann und Dorothea*, two acts of Schiller's *Wilhelm Tell*, and the following selections from the *Sprachbuch*, Volume I, *Die Stadt*, *Wandrer's Nachtlid*, *Die Nacht*, were read, the portions from the *Sprachbuch* being committed to memory. German composition from Buchheim's book formed an important and valuable part of the work. The selections learned by heart formed the basis for special grammatical study and proved of great use to the weaker students.

Fourth-year classes: After a rapid general review of grammatical principles the class did much composition work, much dictation being used. They read the whole of Bernhardt's Goethe's *Meisterwerke*, marked proficiency being shown. To insure interest and progress in German there should be more complete German-English and English-German dictionaries and a German dictionary of synonyms furnished for use in the school.

GREEK.

In this subject the classes numbered two, and were very small. Those beginning were faithfully drilled on the declensions and conjugations. Easy passages were turned into English and English phrases, and sentences translated into Greek. Near the end of the year a few paragraphs were read in Xenophon's *Anabasis*. The critical examination of these served to review and fix the fundamental facts and principles taught. The class, having studied last year, read two books of the *Anabasis*, with a study of Greek grammar, history of Greek literature, and the history of the epoch referred to in the text. Collar and Daniell's *Prose Composition*, White's *Beginner's Greek Book*, and Goodwin's *Xenophon's Anabasis* were used as text-books.

HISTORY.

First-year classes, four hours weekly.

In this study Myer's *Eastern Nations* and Greece and Allen's *Short History of the Roman People* have been used. The subject has been taught topically. In every case where maps could be had they were brought in as an aid. The addition of two new maps was very helpful.

Second-year classes, four hours weekly for two quarters.

Beginning with prehistoric Britain and coming down to the end of the reign of Elizabeth, lectures covering some later periods were given. Attention was mainly directed to the growth of institutions, of national liberty, and to social and religious progress. The want of more reference books, maps, and other helps impedes the advancement of pupils.

Collateral readings and reports thereon, essays on assigned topics, and discussions constituted an interesting and profitable part of the work.

Third-year classes, economics and civil government.

For two quarters the class took Fiske's Civil Government, and Ely's Outlines of Economics for the remaining time. The class was not large, but evinced decided interest in the subjects. It would be well if more students could be induced to take up economics, because that subject deals with the problems of everyday life, and it would enable the young men and women to get a broader and better grasp of the immediate duties of life.

LATIN.

First year: Greater success has been achieved because of the change of method. Last year's work prepared to read only Cæsar, but pursuing the method laid down in Collar and Daniell's First Latin Book the students have gained more power and ability. By deviating slightly from the order laid out in the text-book the classes have been pretty thoroughly drilled in all of the declensions and conjugations. Great stress has been put upon the ready, rapid recognition of the various forms of the language. Some work was done in Cornelius Nepos.

Second year: Twenty-seven chapters in Book I and twenty-six in Book II of Cæsar. Attention has been paid to grammar, construction and arrangement of words, and the careful rendering into good English the passages studied. Pupils showed unfamiliarity with forms, due doubtlessly to the method pursued the previous year. This fact accounts for the small amount read.

Third year: The classes have read three orations against Catiline and the one for Archias. Written work was based on Collar's Latin Prose Composition. Sight reading took a part of the time. Historical and mythological allusions were carefully noted.

Fourth year: The two sections of this year have completed five and read portions of the sixth book of the Æneid. The principles of scan-sion, review of forms, and grammatical constructions, together with enough of mythology to understand the text, constituted the main work of the first quarter. Sight reading, Latin composition, maps tracing Æneas in Book III, the keeping of blank books for "gems" which have been carefully scanned and memorized, make up the character of the work of the other quarters.

MATHEMATICS.

ALGEBRA.

First year: To develop thought, to grasp principles, and to apply them with intelligence have been sought. System as to arrangement, clearness of statement, and accuracy as to result were never lost sight of. Original work received attention.

GEOMETRY.

Second year: Five books of Plane and Solid Geometry have been completed. The pupils showed much interest in the original work undertaken. Exactness, clearness, correctness, and rigid logical statement have been emphasized.

Third year: Solid geometry, conic sections, and plane trigonometry, with enough original work to show the practical part, were studied.

Fourth year: Spherical trigonometry and the chapters in Analytical Geometry on the straight line, circle, and parabola were completed.

MANUAL TRAINING.

The girls from the first year formed a large and interesting class in cooking. The course was more extensive and scientific than that hitherto followed. Many boys entered the shop to continue the woodwork begun in the other schools, paying attention to wood turning, carving, etc. The work in the metal shop included casting in iron, turning to various diameters and lengths, the use of measuring instruments, screw cutting with lathes and taps. A small horizontal steam engine and an instrument to illustrate the laws of friction, parts of a bicycle, such as turning cones for ball bearings, brazing, and bending tubes were also made.

PHYSICS.

The second-year classes, following Gage's Introduction to Physical Science, completed lessons through the electro-magnet. Work here was well done, more time being given to laboratory work and notebooks than in former years. Third-year pupils studied sound, light, and electricity, paying much attention to the useful applications of electricity, photography, and meteorology. Visits were made to the Weather Bureau with great good to the classes. Fourth-year students devoted time to photography, lantern slides, photoengraving being special features. This year classes spent time in studying the elements of electricity and magnetism, as shown in Thompson's book. The pupils practically applied their knowledge in making an induction coil, a dynamo, and an electric motor car run by overhead trolley and underground system. Quite an interesting exhibit of the work was held in June.

PHYSICAL CULTURE.

The work done was as follows: (1) A review of the ground covered in first eight grades; (2) a greater variety of walking, running, and marching; (3) a regular course in club swinging, embracing simple movements and more difficult combinations. The girls have been encouraged to adopt freedom of dress, and to keep their measurements to test the result of the training.

By the addition of a few inexpensive means of exercise, by the extension of the course to scientific breathing exercises, this subject may be made most healthful in developing strength, grace, and endurance among the girls.

SUBJECTS IN THE BUSINESS COURSE.

BOOKKEEPING.

First year: Double entry was used. Debtor and creditor relations were made plain. Deducing the principles from their daily dealings and applying them to larger transactions, pupils thoroughly comprehended the terms, value, debit, credit, resource, liability, loss, and gain. Pupils made out all business forms as called for in the text-book. Business habits and business forms were inculcated.

Second year: The regular text-book was supplemented by matter demanding a grasp of fundamental principles. Business practice received due attention, a bank and commercial exchange being an important feature. This took them out of mere theory into actual business.

ARITHMETIC.

First-year classes spent four hours weekly, and have secured quite good results. Percentage received most attention.

Second-year class could give but one hour a week to this subject, but the practical business aspects were studied and much drill given in short methods. Mental work occupied a reasonable amount of time.

ENGLISH.

First-year pupils have studied Dickens's Christmas Carol, Macaulay's Warren Hastings, and Tennyson's Idyls of the King. Emphasis has been put on the power to get thought and to express it in clear, correct language. In the study of Tennyson much paraphrasing was done. Much written composition was called for. The technical part of grammar was brought forward, the analysis of the sentence, as a means of getting the meaning, being required.

The second-year class paid attention to the analysis of sentences and words, study of synonyms, written work embracing business letters and forms, and reproductions.

SHORTHAND.

First-year class: Two quarters and a part of another were spent on principles, making use of the manual. Dictation exercises were given in the fourth quarter.

Second-year class: Practice in composition of outlines, facility in recalling the outlines, and rapidity in making them constituted the work. The dictation embraced letters, suggestions, and court reporting. All dictated matter was carefully transcribed, much being typewritten.

COMMERCIAL GEOGRAPHY.

In the second-year class this was pursued four hours a week for the last two quarters. The lack of facilities in the beginning was a serious hindrance. The commercial aspects of the United States were exhaustively studied. Consular reports, labor reports, and tariff bills were used to create interest. Pupils were directed to the daily papers to show the practical bearing of the subject.

COMMERCIAL LAW.

This occupied two quarters, Parson's book being used. The terms used in the text were carefully studied, the form as well as the law being noted. Negotiable paper received marked attention. Moot courts were held, the learners conducting their cases admirably, seldom misapplying a principle of law.

TYPEWRITING.

First year: The work included fingering drill, followed by copying, manifolding, and dictation. The proper care and knowledge of the various parts of the machine were also taught. The efficiency and advancement of the pupils were greatly impeded through the lack of a sufficient number of machines. It is respectfully suggested that the night-school machines be placed where they may be used by the business classes.

Second year: Only twenty-five minutes to each pupil three times a week was allowed; far too little time in a subject where practice counts so highly. Speed was hardly possible, so accuracy was sought. As opportunities to make use of skill gained are quite frequent, the learners should be afforded every facility to make themselves proficient.

SPELLING AND PENMANSHIP.

Words likely to be misspelled were culled out and the pupils drilled upon them. They were also held to strict account for correct spelling in every written exercise.

Penmanship was taught three times a week, a half hour being used each time. The vertical system was used with gratifying results, but when pupils possessed a good slant hand the vertical was not insisted on.

MUSIC.

Six classes were taught, one hour weekly being given to each. The instruction embraced tone, sight reading, and writing from dictation for the first-year pupils. Second, third, and fourth year pupils progressed in ensemble breathing and phrasing, together with sight work. They showed a knowledge of triads and their inversions, and in all the relatives of major and minor scales. The "Beacon Song Collections" was employed as a text-book, and the pupils sang well the compositions of the most noted musicians.

MILITARY ORGANIZATION.

A battalion of three companies made up this feature of the school. The careful, soldier-like training given by Capt. Arthur Brooks, the instructor, has been of great value. For the first time in the history of the school the companies appeared in a competitive drill on an open field. This event took place at the National Baseball Park, May 24 and 25, with the Capital City Band in attendance. One of the finest, most enthusiastic audiences ever assembled in the city witnessed

the movements. The medal and badges were won by Company B, under Capt. Archibald M. Ray.

February 19 the "Soldiers and Sailors' Benevolent Union" presented the cadets with a beautiful stand of colors. During the inauguration of President McKinley the cadets bearing this beautiful banner took a praiseworthy and conspicuous part in the ceremonies.

LIBRARY.

About 1,000 volumes are found in the library, which is a necessity to such a school. It should grow in the number and quality of its books to keep step with the growth of the school. No funds furnished by the government are used to augment the library, and we are forced to build it by means procured through concerts and lunches, all of which interrupt and retard regular school work. It should not be left to the uncertain support mentioned, but should be deemed an integral part of the educational system and aided by the appropriation of money.

ADDRESSES AND ENTERTAINMENTS.

At various times during the session the pupils and teachers were delightfully entertained by a number of speakers. Early in the year Rev. J. A. Johnson talked to the school on the motives which ought to actuate the students. This was a most inspiring address, for in "thoughts that breathe and words that burn" the speaker painted the high ideals that should control and inspire. A short time after Christmas Rev. James H. Bradford, member of the Loyal Legion, delivered a profitable address, which was followed in February by an interesting lecture from Dr. L. R. Klemm, specialist in the Bureau of Education. His theme was "Fifty years of progress," and showed that there is to-day work for all earnest, prepared young men and women.

On February 15 Douglass Day was observed. After the singing of the hymn "Seeking for me," a favorite of Mr. Douglass, Rev. Francis J. Grimké gave an eloquent portrayal of the life and character of Mr. Douglass.

Washington's birthday was appropriately celebrated by songs, reading from the Farewell Address, and an address by Mrs. Helen Douglass. This discourse was full of thought, beautifully expressed, and charmingly delivered.

Flag Day, June 14, was a very enjoyable occasion, the exercises consisting of patriotic selections in prose and poetry, interspersed with national airs, and concluding with the "salute."

RHETORICALS.

By omitting the usual chapel exercises Friday morning, these exercises were held in the different class rooms. The entire school was called upon a number of times to take part in general rhetorical in the assembly hall. Upon these occasions the best from all classes was gathered and given. March 19, Dickens Day was given by first-year

pupils, under Miss I. A. Gibbs. On June 15, Mr. P. N. Bailey's fourth-year English classes gave a highly interesting and beautiful entertainment entitled *A Vision of Fair Women*.

CONCLUSION.

The work has been done through the cooperation and enthusiasm of the teachers here, who seconded every effort to better the school. For advice and support, both on your part and that of the members of the trustee board, we express the highest appreciation.

Very respectfully,

W. S. MONTGOMERY,
Principal.

Mr. G. F. T. COOK,
Superintendent of Schools.

NORMAL SCHOOL.

WASHINGTON, D. C., *June 30, 1897.*

SIR: I beg leave to submit the following as a report, with suggestions, of the Normal School directly under your supervision:

The school opened September 21, 1896, with its original corps of teachers, an increased number of pupils, and a changed course of study with an extension of time to two years.

Each and every teacher immediately recognized the increased responsibility and entered into the work with a zeal which was truly religious in character, determined to do her best at whatever cost. The circumstances were trying at every step, yet no one faltered. The year is now closed, and, as we look back, it has been one of hard work cheerfully done. Each teacher has done her very best. Pedagogically, we are in process of evolution. We have carefully considered the conditions of growth and the factors, internal and external, necessary to produce a supply of fully equipped and well-trained teachers for our public-school work.

Argument is no longer necessary to verify the truth that it is the State's duty to educate its children for good citizenship. This can not be accomplished without adequate training of the teacher. As the State sows so also will it reap.

Some idea of the growth of normal schools in the past ten years may be gained by an inspection of the following table from Commissioner Harris's report for 1894-95:

Public and private normal schools.

Year.	Public normal schools.				Private normal schools.			
	Schools.	Instruct- ors.	Students.	Graduates.	Schools.	Instruct- ors.	Students.	Graduates.
1884-85	131	1,234	26,090	3,162	132	842	17,068	1,366
1894-95	155	1,584	36,491	5,492	201	1,059	22,013	3,094

City normal schools are found in most of the large cities. Unfortunately there is great difference in organization and conduct. Some are strictly professional; others combine academic and professional courses. Just why this great difference of opinion as to proper choice should exist is not to me quite clear. The end to be attained should always decide the means and manner.

It is generally the accepted opinion of the thinking class to-day that the well-being of our public schools depends upon the culture of the teachers. This narrows itself to what constitutes culture of the teachers and where the finishing place is.

There is a professional as well as a general culture. The latter prepares the way for the former.

"The merely professional man is always a narrow man; worse than that, he is in a sense an artificial man, a creature of technicalities and specialties, removed equally from the broad truth of nature and from the healthy influence of human converse."

The general scholar must become the professional man, if we would have the ideal, who knows the principles on which his practice rests and the relation of his own particular art to general human interests and general human intelligence.

This general training begins with his first observation and is carried on step by step from the cradle to the grave. His home, the school, the college, the healthy influences of society, travel, friendship with books—"great books, original books—the fountain heads of great ideas and noble passions."

Culture is constantly widening and deepening. The teacher is especially the transmitter to the generations of the future. He must, therefore, keep constantly progressing if he would be worthy of his high calling. The foundation of this culture must be thoroughly laid before he enters the narrower domain of profession. He must have a knowledge of the subject-matter; be an intelligent thinker who knows what he sees, and sees by virtue of his studies in both school and college what he otherwise would fail to see, and is capable of expressing that which he sees with accurate precision.

Such a person is intellectually prepared to enter the domain of professional work.

Teaching is a profession the rank and value of which is no longer a question. It requires more, perhaps, than any other a proper and adequate training. It is the sole province of the normal school to give this training. By restricting the work to the professional we raise the culture of the teaching profession. The course of study, I am pleased to say, has been extended to two years, which must give to each student a fuller knowledge, a clearer insight, and greater skill in school methods. In view of this change we had to reorganize, and for the future I would suggest the following plan:

The first year should be devoted to bringing students into intellectual harmony, teaching them how to intelligently observe and to study,

each pupil being required to spend twenty hours weekly on his own lessons, which includes a review of subjects prescribed for primary schools and best methods of teaching the same; regulations concerning school organization and discipline; a good knowledge not only of pedagogy and its history, especially since the sixteenth century, but also of psychology and logic, no practice being allowed in annexed schools.

Second year, studies ten hours per week, each pupil spending not less than ten hours a week in actual practice; work covering all the studies of the primary schools, and at least five hours per week visiting the best schools. I wish to emphasize this latter as an important means of education and training. The art of instruction can not be learned from books and lectures, but through the living example. The students should, therefore, visit the best schools and observe the power to teach as shown by the model teacher. It is of the greatest value in self-improvement; they gather material for their own practice the value of which is not to be underrated. At the end of the course a rigid examination conducted by superintendent, supervisors, and principal of the normal school should determine the standing.

In this way the title of teacher would be a significant and worthy endowment not to be too easily obtained.

After graduation, which admits to his profession, he should work at least two years upon the provisional certificate in a school assigned before he is admitted to the final examination to determine his fitness for general teaching. This latter is a means devised to compel the younger teachers to improve themselves. Every inducement should be offered to attract the teacher to move forward in the profession. Progress eternal and constant should be the watchword. The reading of scientific and special works is an excellent means of self-improvement. Conferences should be regularly held where the internal and external relations of schools should be discussed. It would be a most excellent plan to have a system of examinations at stated periods for promotions. In short, adopt any legitimate plan which will make it absolutely imperative that the teachers shall continue to improve themselves after leaving the normal school.

The attendance of the present class has been excellent. The scholarship has been below the average desired, but it is hoped another year's careful training may do much to elevate the standard.

The number of interested visitors has been constantly on the increase.

We are very much indebted to the following named ladies and gentlemen for highly interesting and instructive lectures on the subjects named:

Mrs. F. J. Grimké, "Story of art."

Dr. Hailman, "Relation of kindergartens to public schools."

Dr. J. L. M. Curry, "Slater and Peabody funds, and what they have accomplished."

Dr. A. D. Mayo, "Education in the South, and its needs."

The training schools, under the competent corps of assistants—Misses Ada C. Hand, Mary E. Smith, Anna E. Thompson, and Marie E. Bowie—are always full.

Thanking you, Mr. Superintendent, and the trustees and teachers for ready and cheerful cooperation, I have the honor to be,

Your obedient servant,

LUCY E. MOTEN, *Principal.*

Mr. G. F. T. COOK,

Superintendent of Public Schools.

DRAWING.

WASHINGTON, D. C., *June 30, 1897.*

SIR: I take pleasure in presenting the following report. The work of this department has been about the same as usual. You, and the public generally, are so well acquainted with the kind, quality, and purpose of our efforts in the past that it now seems only necessary to mention such additions as have not come under your special notice.

In this connection I have to say that the introduction of color in the fourth grade schools this year, and the hope that it may be supplied for all grades next year, has caused teachers and pupils to take more interest in this study than ever before. Its value is not confined to creating new interest in what may be termed drawing exercises, but to all kinds of object work, both natural and manufactured, thus helping the teachers in their regular studies.

This department gave a number of lessons in color to the teachers during the year for the purpose of helping them in their plant, insect, and other work required by the course of study. For this purpose quite a collection of birds, insects, plants, and other subjects have been collected and placed and arranged in a small room next to one of the drawing rooms in the High School. These specimens have been used during the year by a number of teachers in regular classes. Some have come of their own accord and have made excellent studies. It is to be regretted that the room is not larger and furnished with microscopes, magnifying glasses, and every convenience to aid the teachers in this work.

The High School work has been satisfactory during the year. The advanced classes were very much interested in studying from the subjects in our little museum.

The Normal class in this subject made more progress than any previous class.

My assistants have been earnest, patient, and faithful in carrying out the work assigned to them. We have had pleasant and profitable meetings nearly every Friday night during the year.

The following is the annual report submitted for the year:

1. Number of lessons given to classes of teachers.....	40
2. Number of lessons given to classes of pupils:	
Special class	176
Normal class	31
High school.....	569
	— 776
3. Number of visits for supervision.....	382
4. Days absent.....	5
5. Number of lessons given in grades below High School.....	3,389

Very respectfully,

T. W. HUNSTER,
Director of Drawing.

Mr. G. F. T. COOK,
Superintendent Public Schools.

MANUAL TRAINING.

WASHINGTON, D. C., June 30, 1897.

SIR: The number of pupils (1,120) enrolled this year was larger than in any previous year. Much interest was shown by the pupils. It shows that manual training in the public schools has come to stay.

The plans pursued in the schools are, and have always been, to make everything bend to the practical; so that the pupils will feel and know that what they learn can be available at once; hence, many of the boys are found after school hours and on holidays practicing what they have learned. If this spirit continues, when they leave school, we will not find many idlers.

Several lectures have been given during the year, and many visitors have been to our school. One new school was opened during the month of February, at Lincoln, and was taught twice a week by Mr. Lee A. Cornish, who also taught at Miller Building.

All the assistants have cooperated heartily with me in the work: Messrs. J. D. Baltimore, G. Forrester, S. W. Madden, L. A. Cornish, C. H. Madella, S. Keys, H. Lewis.

Summary.

Months.	Lessons given to all classes.	Lessons given to High School.	Lessons to classes below High School.	Manual training schools.	Days teacher absent.	Visits of director.
September.....	69	.....	69	7	.....	7
October.....	282	17	265	7	1	46
November.....	320	28	292	7	1	44
December.....	283	31	252	7	1	17
January.....	359	42	317	7	.....	20
February.....	357	35	322	8	4	19
March.....	375	26	349	8	1	21
April.....	342	30	312	8	1	20
May.....	338	20	318	8	1	20
June.....	199	11	188	8	1	17
Total.....	2,924	240	2,684	.....	10½	231

Summary—Continued.

	Whole number of pupils en- rolled.	Whole number of pupils at close of school.	Pieces of work com- pleted.
Miller Carpenter Shop	641	429	525
Randall Carpenter Shop	188	153	250
Lincoln Carpenter Shop.....	23	16	25
Stevens Carpenter Shop.....	170	147	100
Miller Metal Shop	98	78	75
Total.....	1,120	823	975

Very respectfully,

JAMES H. HILL, *Director.*MR. G. F. T. COOK,
Superintendent of Schools.

COOKING.

WASHINGTON, D. C., June 30, 1897.

SIR: I herewith present to you my report for the year 1896-97:

Randall school, First and I streets SE. (pupils received from Bell, Giddings, Lincoln, and Randall schools; Miss Mary E. Ware, teacher):

Number taught	147
Number of seventh grade classes.....	7
Number of eighth grade classes.....	5
Number of visits for supervision.....	21
Number of lessons given.....	381
Cost of supplies.....	\$58.99

Stevens School, Twenty-first street, between K and L streets NW. (pupils received from Sumner, Wormley, Briggs, and Stevens schools; Miss H. Johnson, teacher):

Number taught	201
Number of seventh grade classes	9
Number of eighth grade classes.....	6
Number of visits for supervision.....	51
Number of lessons given.....	488
Cost of supplies.....	\$76.75

School I, 917 P street NW. (pupils received from John F. Cook, Banneker, Jones, Logan, Garnet, Garrison, Patterson, Slater, and high schools; Miss K. M. Nalle, teacher):

Number taught	193
Number of seventh grade classes	7
Number of eighth grade classes	5
Number of high school classes	2
Number of visits for supervision.....	67
Number of lessons given	451
Cost of supplies.....	\$77.92

School II, 917 P street NW. (pupils received from John F. Cook, Banneker, Jones, Logan, Garnet, Garrison, Patterson, Slater, and high schools; Misses Ella Freeman and M. B. Cook, teachers):

Number taught	190
Number of seventh grade classes	7

School II, 917 P street NW., etc.—Continued.

Number of eighth grade classes	5
Number of high school classes	1
Number of visits for supervision	72
Number of lessons given	423
Cost of supplies	\$71.29

Consolidated report.

Number of girls taught	731
Number of seventh grade classes	30
Number of eighth grade classes	21
Number of high school classes	3
Number of visits for supervision	211
Number of lessons given	1,743
Cost of supplies	\$284.95

It has long been our earnest desire to have the cooking schools in rooms more truly fit in every way for laboratory work, and it is with feelings of deep gratitude and honest pride we acknowledge that our present rooms and surroundings are in far better condition and more especially adapted to our work. I refer to the new room in Stevens school, and the two rooms at 917 P street NW., the latter being occupied by the schools formerly located in Miller building.

The class entries began September 28, and it was gratifying to note an increase in the number of admissions. Yet, how much better were it if this training and knowledge of domestic science and household economy, which influence so much of a woman's life, could be extended and reach a larger number of the girls in our schools. It is to be regretted that we have to depend principally upon the seventh and eighth grades to feed our department. While the percentage of attendance in each school has been good, still there is room for improvement. The strict attention given to the regular attendance of the girls to their cooking classes in the ninth division, with its good results, is very commendable indeed. The same attention may be given in the remaining two divisions; yet the number of absences given has been too many and, I fear, unnecessary. It was also very noticeable this term that many pupils located in buildings far distant from the laboratories who entered the classes the beginning of the year were forced to withdraw during the winter season on account of the long distances to walk in bad weather. It is to be hoped that next year a laboratory will be placed within easy reach of these pupils, which will to a great degree lessen the absences and withdrawals.

LABORATORY WORK.

During the interval of preparing the rooms the practice work was somewhat retarded, but without loss to the pupils. Since the introduction of this branch of work into our school system the science has taken wings, as it were, and each year adds many facts to what has been previously mastered, and we find ourselves more ready to look up and adopt newer and better plans for successful teaching. Thus the first two months were most profitably spent in explaining the fundamental

principles and theory of the work, while kitchen work and the various ways of performing the same furnished the practice.

Deeming it unnecessary to enumerate and characterize each lesson, as this was done in monthly reports, I would say that the progress made in teaching of food products, their chemical composition, and practical cooking in the seventh and eighth grades was particularly pleasing. Each lesson was most carefully planned, and the teachers were provided with a copy of each. This added much uniformity and accuracy of knowledge to the course of instruction.

Feeling that the time from the grade work could not be taken without detriment to the pupils, the usual dinners of the eight grades were omitted, much to the disappointment of the classes. Bread making and baking seem to have been the specialty in each class. Each lesson day might also have been called a specimen day in the schools, and it was very gratifying to note in my round of visits numerous specimens of the home work. This met my most hearty approval, and yet it was no more than it should be, since the homes are laboratories, where chemical processes are being carried on every day. In no better place can a girl by practical application carry out the training she receives in our schools, which enables her to make many savory dishes from inexpensive materials, while a little chemistry will tell her how to select them with a view to health.

Near the middle of the term I observed a tendency on the part of pupils to forget the important points of a lesson. This may have been due to the long intervals which occur between the lessons. To obviate this, however, the question method was adopted to the extent of compiling a question book, thus: Each girl was required to originate from five to ten questions on the experiment taught, and the best were selected and copied in the book designated. The answers to these questions were gathered from the talks given by the teachers on the lessons. The utility of this method was exemplified in the annual examinations, which far surpassed my expectations.

The pupils also showed a marked degree of improvement in their mastery of proportions, which was well tested by individual practical demonstrations when examined: For example, one pupil would be required to make for me three biscuits or muffins, another a cup of coffee, another a plate of soup, and so on, covering the entire grade of practice work. The pupil was thus made to use judgment and accuracy to get the food products proportional, as well as skill in mixing and cooking the same, that the result may be perfect.

The usual cleanliness and neatness were maintained in the classes generally. In this the seventh and eighth grade classes from Randall building deserve special mention.

HIGH SCHOOL.

Fifty-seven young women from the business and academic departments formed three of the most painstaking classes for our advanced course in cooking. Much satisfaction has always been derived from

the pupils of this grade, and it is a lamentable fact that so many of the girls from this school fail to take this course in cooking, which for various reasons they can not advantageously afford to lose. Good were it if our girls at this stage of school life would remember the true object of education, which is to prepare them for the duties and pleasures of life, and that if intellectual training alone secured these ends, what need to have added this special training? But it has been proved that the careful training of the brain and hand together produce the best results. Furthermore, the training given in our schools should develop all-around young women, and should, if properly given, tend to promote rather than weaken their intellectual powers. If the young women will combine, instead of severing, a knowledge of the food we eat and the art of cooking the same with their knowledge of physiology, chemistry, and botany, they will be the better equipped for true helpers in the home in every sense of the word. It is my most earnest desire that in another year each girl promoted to the High School return and complete her course in cooking, as I most firmly believe this can be done without injury to the pupil's intellectual welfare. Of our advanced classes the past year I have only words of commendation. The food exhibit given by these young women in the presence of the school officials on the 13th of April was in every way satisfactory.

Most respectfully,

MATTIE B. COOK,
Director of Cooking.

Mr. G. F. T. COOK,
Superintendent of Schools.

SEWING.

WASHINGTON, D. C., June 30, 1897.

SIR: I respectfully submit the following report of the sewing department of the ninth, tenth, and eleventh divisions.

Owing to the fact that we have had an additional dressmaking shop this year, which gave admission to all sixth-grade pupils, it has made the course of sewing more complete than in former years.

The course now embraces three years of plain seamstress work and one year in dressmaking.

The interest in this department continues each year and the lessons given are very profitable to many girls.

Particularly are the little girls of the first year quick and alive with their needle, and at times I have been inclined to think that there has been more interest shown this year than formerly.

The practice in stitch making, seaming, patching, and the drafting of simple patterns, such as pockets, bibs, and pillow slips, and in some instances the making of these articles, has comprised the first-year work.

French fell seams, bias piecing, gathering, adjusting gathers to bands, gussets, set-in patches, two styles of vent finishings, button-holes, and drafting of garments, such as yokes, drawers waists, and drawers has been the work of the second year.

The stitches for use and ornament, such as herringbone, feather-stitch, together with tucking, mitered hems, napery hems, weaving, darning, rolled ruffles, buttonholes, the drafting of skirts, underwaists, and drawers, has been the work of the third year.

Talks on cotton, flax, silk, wool, threads, weaving, cloth, pins, needles, buttons, thimbles, thread mills, and factories have been given and compositions written thereon. Specimens of the subjects talked on—some in their raw state and others showing the different process of manufacture—have been shown to the classes, and I am safe in saying that many little girls can enlighten and interest their mothers as to how the different textiles and articles used in sewing are made.

The story of Eli Whitney and his cotton gin, and the great Scotch thread spinner, George A. Clark, are as familiar to our little girls as the fairy story of Cinderella. These theory lessons are quite interesting to children, and specimens shown of the subject lesson are most beneficial.

During the year 1,139 lessons have been given in the third grade, 1,031 in the fourth grade, and 700 in the fifth. The number of pupils receiving instruction has been 2,695, and the number of models made 11,542.

In September we were fortunate in opening a new dressmaking shop, located in the Lincoln School, for the pupils of the southeast and southwest sections. Miss S. A. Goines was appointed teacher in charge, and conducted the work most creditably.

In the three shops the drafting of outside garments, together with the making of skirt models, pockets, and bands, has been the course pursued for the year.

The same close attention to the theory and the study of textiles has been given in this department as in the other regular classes. Nine hundred and nine lessons have been given and 14,709 models made during the year.

The young boy, Charles Purdy, of the Randall School, and of whom I called your attention last year, entered the Lincoln shop in September, upon your approval, and has successfully completed the year's course. A number of boys in other schools have asked for admission, and I trust such petition will be granted.

Although the full course for the year was given the teachers in September, yet we have held regular monthly meetings and discussed points that naturally arise from time to time. In all there have been twelve.

In November Miss Annie E. Thomas was appointed to a position in our department, and taught in the tenth division. Her work for the year has been most satisfactory.

In March one department made an exhibit in New York City in connection with an exhibition held by the New York Association at the American Art Galleries, at Twenty-third street and Broadway. Over 50 American schools were represented, besides 30 foreign schools under the direction of the school board of London.

Our department contributed 36 charts and 24 garments, and received flattering comments as to style, finish, and arrangement of work.

Beginning in April, I thoroughly examined and inspected the work for the year. I found that owing to so many one-session days, by reason of teachers' meeting, together with inclement weather, some of our classes had lost a number of lessons.

I do not complain in making this statement, for I know that it is impossible for supervisors and directors of special departments to call meetings of regular teachers without interfering in some section or division with the sewing programme. I would suggest that on such continuous-session days, when not caused by inclement weather, the sewing classes be detained to receive instruction.

In April 146 garments, that had been made from time to time in our department, were distributed to the poor of our schools. In several instances the garments were given to the girls who made them and to the division in which they were made. Thirty-seven were given in ninth division, 29 in tenth division, 40 in eleventh division; 31 caps and sleevelets to the cooking schools and 9 to the children of one of the kindergartens.

The number of sewing classes for the year has been 122; number of pupils receiving instruction in the entire department, 3,190; number of lessons given, 3,761; number of models made, 26,251; number of visits for supervision, 277.

I am, respectfully,

CARRIE E. SYPHAX, *Director.*

G. F. T. COOK, Esq.,
Superintendent Public Schools.

PHYSICAL CULTURE.

WASHINGTON, D. C., *June 30, 1897.*

SIR: The following is a report of the work of this department for the year ending June 30, 1897:

NORMAL SCHOOL.

Each member of the normal class received one hour's instruction weekly in the theory and practice of school gymnastics. The lesson sheets of the first three grades were taught in the practice schools by the normal pupils. Model lessons were observed by the entire class, and others given for criticism according to the outline in course of study.

Talks and readings, such as would impress the value of gymnastic training were brought into the class. Physiology and hygiene were taught in lectures, kept in note books by the pupils.

HIGH SCHOOL.

Sixteen classes were instructed weekly for twenty-five minutes each. The work embraced free gymnastics, short-wand and dumb-bell drills, club movements, plain and fancy marching, and the running maze.

Chest lifts are especially needed here. Other recommendations necessary for the work in this school have been made to the principal.

GRADED SCHOOLS.

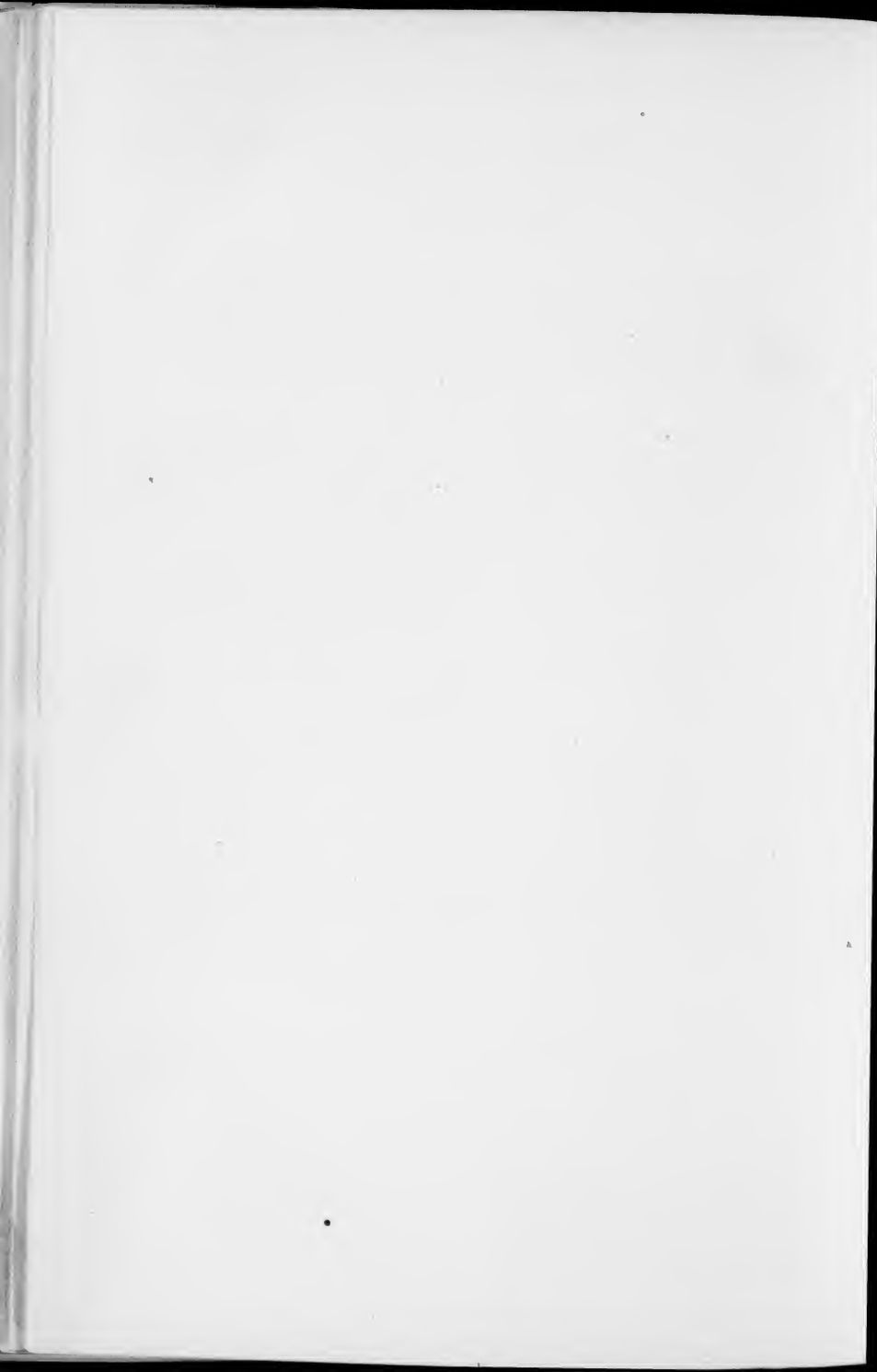
The special teachers of this department have carefully taught the lessons as arranged on sheets for the several grades. The standing for the year was as follows: 33 fair, 102 good, and 107 excellent schools.

These ladies arranged and taught several drills for parents' day by special request of the regular teacher.

Very respectfully,

HATTIE B. GEORGE,
Director of Physical Culture.

Mr. G. F. T. COOK,
Superintendent Public Schools.



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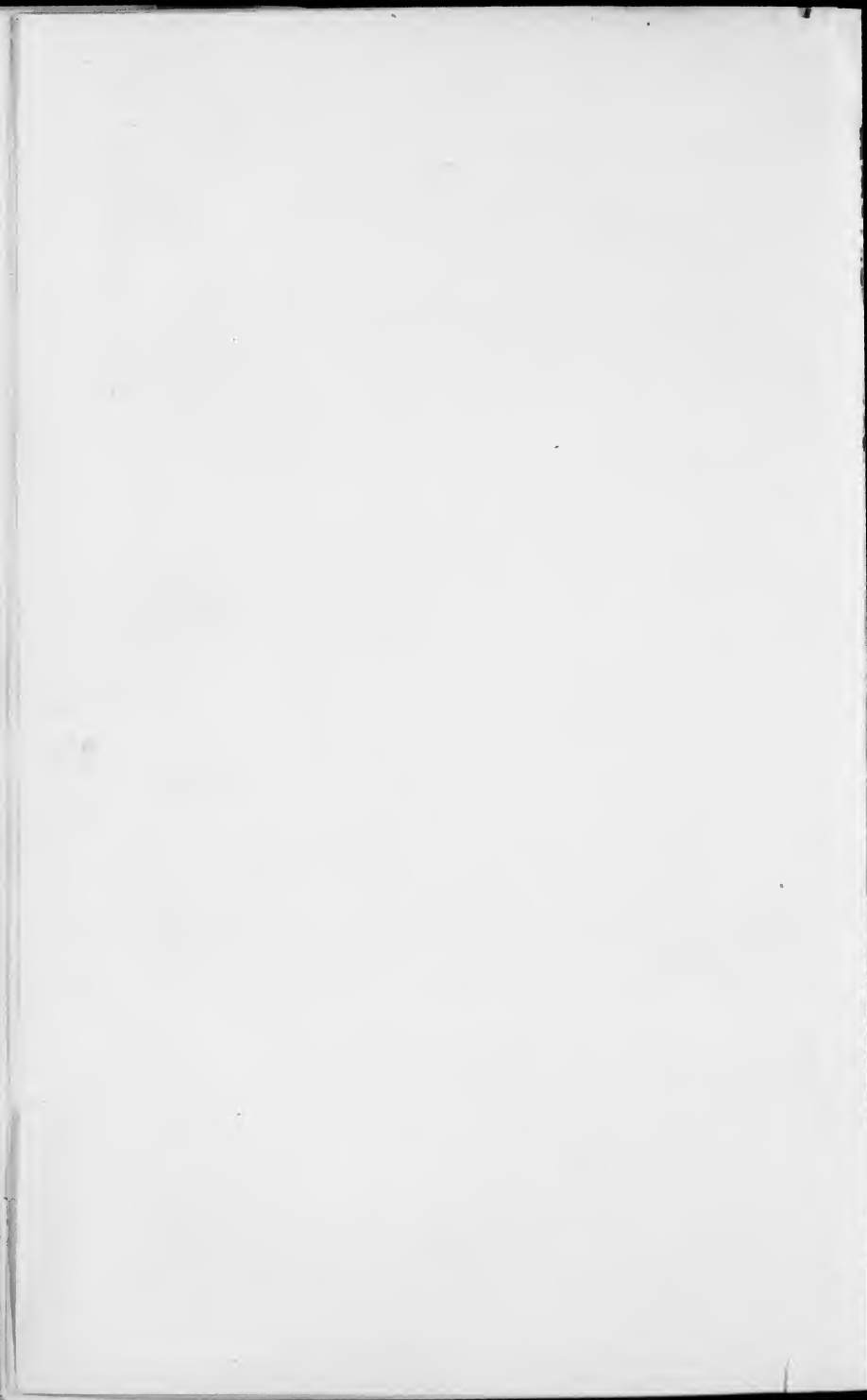
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